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THE WILSON ORNITHOLOGICAL CLUB

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LAUGHING GULLS

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THE WILSON BULLETIN

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DOWN BIRD ISLAND WAY

BY J. J. CARROLL

Bird Island, lying in Laguna de la Madre off the Texas coast, is in springtime a spot of never failing interest to the ornithologist no matter with what frequency he may visit it. This island is not of very easy access because of the shallow waters of the Laguna. On this account a boat of light draft is required—a craft which is really little more than a skiff equipped with an out-board motor. Motive power of this sort is more or less uncertain in its functioning and one depending on it faces the possibility of completing the voyage with oars. But neither this prospect nor the unsparing rays of the summer sun has potency to diminish the bird student's enthusiasm once he is on his way.

On the morning of June 17, 1926, the sun was beaming down in its usual ardent fashion as four of us, including the boy operating the motor, set out from Flour Bluff, Bird Island, eighteen or twenty miles to the south, being our goal. My two other companions were L. D. Garrison, a lumberman of Corpus Christi, and his son Donald. Neither of these gentlemen shared my ornithological enthusiasm, their incentive being a combination of curiosity to see what bird life on the island was like and a desire for a day's outing. They were mildly tolerant of my consuming interest in the birds.

Hardly had we got under way when things of interest began to come under our observation. Standing in the shallow water with long necks outstretched, several Ward's Herons eyed us suspiciously as we glided by. A few Least Terns were making their swallow-like descents, skimming gracefully over the surface of the water. It was only near Flour Bluff that we saw these beautiful little terns. Presently we passed a flock of twenty or thirty Mexican Cormorants, and five or six Brown Pelicans sailed by with quiet dignity. A little way out the Caspian and Royal Terns began to appear in considerable numbers as did also the Laughing Gulls. They hovered over the

schools of small fish that literally swarm in the shallow waters of the Laguna. In nearly any direction we might see a company of these gyrating fishermen. Frequently one would plunge into the water to come up with a luckless fish held crosswise in his beak. His quarry thus captured the long flight to the island would begin, twelve or fifteen miles away. When on the way to their nests with food for the young, they would fly only a foot or so above the water. Often a Laughing Gull would fly along directly over and not far above the boat, evidently mistaking us for fishermen and looking forward to a feast off refuse.

Young of the Brown Pelican. Bird Island, June 17, 1926

Presently came in sight three Man O'War Birds soaring majestically on their long narrow wings. Later we were to see one of these peregrine buccaneers harry a tern till in desperation it dropped its precious fish which the marauder quickly pounced upon.

As the day wore on the heat grew more pitiless. There was no wind. Scarcely a ripple disturbed the surface of the water. On our left the glistening white sand-dunes on Padre Island appeared entirely detached and dancing in mid-air. But Bird Island was at last in sight. Within a short time we could see faintly the glint of flashing white wings. As we drew gradually nearer the circling birds became more and more distinct, until finally it became evident that the myriad nesting sea-birds one usually finds on this island were awaiting us. But in reality they did not await us; they came to meet us, a milling, scolding throng. The boat's bottom grated on the sand some fifteen or

twenty feet from the island's beach, and Graflex in hand I lost no time in leaping overboard to wade the rest of the way. We landed near the south end of the island where its level above high tide is a matter of inches. At this point there is no vegetation of any kind—just the bare sand and shell.

The Garrisons were out with me and we quickly found ourselves in the midst of a Black Skimmer nesting area. The nests were numerous, situated only a little way apart, well defined cavities scooped out of the sand, with no lining of any sort. They contained from one to five handsomely marked eggs, the ground color being a creamy white to buff, spotted or boldly splotched with varying shades of brown. The marking in most cases was of large pattern. There were some hundreds of nests, but I made no effort to make anything like a definite count.

No young were found which I regretted because there are few fledglings which interest me more than immature Black Skimmers. Later in the summer, July, I found two nesting colonies of these birds on Matagorda Peninsula some hundred and twenty-five or fifty miles up the gulf coast from Bird Island. A few of the nests in these colonies contained eggs apparently fresh even at that date. Most of the nests, however, held young birds varying in age from newly hatched to a size nearly ready to take flight. I spent sometime observing them. When an intruder appears near the nesting grounds the parent birds feign injury and inability to fly, very much after the manner of the Mourning Dove. They lie on the ground fluttering and going through all sorts of antics in an effort to decoy the supposed enemy away from the eggs or young. Another curious thing I have noticed with regard to these birds is their determination to compel their young to lie flat on the sand motionless and unblinking, when an intruder is about. If a young bird takes fright and scuttles across the sand an adult, whether the parent I do not know, will fly in pursuit and with his bill knock him heels over head, or even pick him up and fly a little way before dropping him. Then the youngster stretches out flat on the sand, moving not a muscle, and imagines himself hidden. But their bright eyes remain open as a number of pictures I have made will testify. The half grown birds are inclined to go out into the water and swim about near the shore line.

Leaving the Skimmer colony we proceeded toward the north end of the island escorted by a hostile convoy of countless Laughing Gulls, Caspian and Royal Terns and the yet indignant Black Skimmers. The

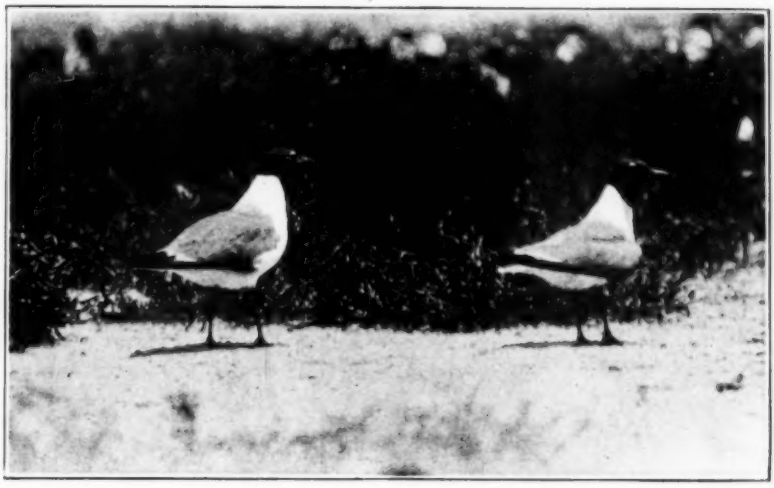
air was teeming with birds, all vociferously and doubtless profanely expressing their disapproval of our presence.

The next nesting area we encountered was occupied by Caspian Terns. They were situated on higher ground and at this point there was some sparse vegetation. This species is apparently not so inclined to nest on bare spots as is the Royal Tern. Most of the nests contained two eggs or young, while a few contained only one. The nests were more or less concealed in the weeds and boasted some lining. The eggs are attractive in appearance—a background of buff marked with specks, spots and scrawls of brownish with often an underlying grayish

Bank of Royal Terns. Bird Island, May 15, 1927

hue. The adult birds fiercely resented our intrusion and were warlike in their remonstrance.

Near the center of the island was located an enormous colony of Laughing Gulls. Here there grew a sort of beach grass and a succulent weed. The nests were to some extent hidden and were lined with grass and weeds. The nests being only a few inches apart, we were compelled to walk with the greatest care to prevent stepping on them. They contained two or three eggs or young. The eggs average much darker than the tern eggs, the background brownish or dark buffy with darker markings in the shape of spots and blotches. Of course, as is the case of most gull eggs, many specimens varied from the average. These little gulls are curious looking striped and mottled chaps and



Laughing Gulls standing near their nests

Reddish Egret leaving nest in the cactus

have the habit of thrusting their heads under a bit of grass or weed and feeling perfectly secure.

The next homesite we invaded was occupied by the graceful Louisiana Heron. Here we found the first real nests. They were well constructed of twigs and sticks, laid on the grass and weeds a foot or so above the ground. The nests contained from two to four eggs or young, the latter varying in age from freshly hatched to nearly fully fledged. The adult bird manifested a lively interest in our presence, but were nothing like so resentful as the terns, gulls, and skimmers. Leaving their nests they would fly only a short distance away and eye us inquiringly. Not all of these herons were nesting together. They were divided into several groups, never mingling with other species of birds.

What I have said concerning this heron will apply pretty well to the seventy-five or one hundred pairs of Reddish Egrets we found nesting on the island, except that the egrets did not accept the invasion with the Louisiana Herons' complacency. Their displeasure was expressed chiefly by the standing on end of every neck feather and the erection of the crest which gives them a ferocious aspect. The nests of the egrets were of about the same construction as the herons and similarly located. We saw one adult egret in the white phase and only a single white immature bird.

The explorations I have just described were not made in quietude by any means. Notwithstanding we were no longer in the immediate vicinity of their nests, the gulls, terns and a few skimmers accompanied us and by their shrill incessant cries demonstrated their continued ill-will. While hundreds had returned to their nests the air above our heads was still filled with angry birds.

We were now approaching the northern end of the island where grew the prickly pear cactus, spreading in clumps over a considerable area. Some of these cacti reached a height of four or five feet and many of the clusters would measure fifteen or twenty feet in diameter.

Here we found first the Brown Pelican, several hundreds of pairs, and then the Ward's Heron, perhaps one hundred nests. Many of the pelicans' nests were built up in the cactus—great thick affairs made of sticks both large and small, lined with weeds. Others were built on the ground sometimes not more than two feet apart. Those on the ground in many cases were twelve or fifteen inches in height, dirt entering largely into their composition. Apparently they were used from

Part of the Colony of Brown Pelicans

Royal Terns and Cabot's Terns, at nests

year to year, being repaired and augmented each spring. There was a remarkable difference in the nesting time of these birds. Nests with incomplete complements of eggs were found and right alongside would be young nearly as large as the adult birds. Not infrequently a young pelican would be nearly twice the size of his nest mates. The decaying fish lying all around made this nesting area particularly ill-smelling. As we approached large numbers of half-fledged birds would gather in groups and waddle slowly away while the old birds looked on with an air of benevolence and kindly interest. No other bird within my knowledge can approach the pelican for grave dignity. As the young birds were awkward and none too sure of foot at best it was amusing to watch the difficulties into which they would fall when attempting to hasten away from us. One would stumble over the uneven ground and for support would throw a wing over the shoulder of his neighbor, who, losing his balance because of the added weight would reach frantically for the next bird and so on until the whole company was in confusion. When they saw that escape by flight was impossible they would fall back upon their last defense which is a disgusting performance. With much retching and contortion and gaping of their enormous mouths—but I will spare you the details. It is sufficient to say that much fishing on the part of their respective parents thereby went for naught.

A little farther north we found the Ward's Heron. Their nests were wide and thick platforms of sticks—some of them as thick as one's wrist—and represented much labor. Many of them contained four or five eggs of the usual bluish green color, while others contained young of all ages, from chicks hardly dry to practically full fledged birds. One of them was so large that I felt sure he would fly if sufficiently urged, and to satisfy myself on that point I gave chase. He made no effort to fly and his attempts to co-ordinate the movement of his long awkward legs was almost a failure. Finally he got under way toward the beach with me in close pursuit, when he slipped and began to skid in such piteous fashion that I had not the heart to tantilize him further. The nesting time of the Ward's Heron covers considerable time, as I have seen their eggs from February to July.

Between the cactus and the shell and sand beach was found a large colony of Royal Terns and they met us with a vociferous challenge. The nests were but slight depressions with no lining of any sort. They were located near together and in nearly all instances contained but a single egg.

Reddish Egret, in white phase, at nest in the cactus

Black Skimmers resting at the edge of the water

The eggs of this species average lighter in background color than those of the Caspian Tern, being usually yellowish white, the markings being of several shades of brown distributed pretty well over the entire egg, small dots, large spots and splotches. Hundreds of young Royal Terns were gathered together near the edge of the water, the old birds hovering over them continuously.

Nearby we found a small colony of Cabot's Terns. One nest, if we may so designate a shallow hollow in the sand, contained a young bird. The others contained one egg each, and beautiful eggs they were. The background varied from creamy white to buff. The markings were small and large spots and scrawls of dark brown. They were very near together and the efforts at nest making had been negligible. At a short distance was a small colony of Black Skimmers but not more than a dozen nests.

One Great-tailed Grackle's nest containing three eggs was found in the top of some weeds—the only land birds we saw.

I had made a good many pictures of nests, eggs, young birds and some adults and as I had not had much time in many years to devote to bird study I was having a thoroughly delightful experience. The Garrisons lent their aid in every way possible and I was hopeful that I might proselyte them into the ornithologists' fold. I was delighted therefore to have a letter from Mr. Garrison later asking where he might procure some books on birds, as the deadly virus had done its work.

We returned to the boat tired but happy and I have many a picture to remind me of one of the most enjoyable experiences I have ever had.

Since the foregoing was written it has again been my pleasure to visit Bird Island, Mr. Garrison being my companion as before. Our trip was made earlier this year (1927), May 14, and as we found conditions in some respects different I have thought it might be of interest to record them.

Long before we reached the island I caught an occasional glimpse of the bright sun's rays falling on a huge snowy form with black tipped wings, flying about in majestic circles — the White Pelican. While others had found it nesting there on rare occasions the experience was new to me. In fact the boatman assured me that we would find no nests but I was hopeful nevertheless. The winged hosts came out to hurl the usual maledictions—gulls, terns, and skimmers. It was

Nest and Eggs of Brown Pelican
Bird Island, June 17, 1926

Nest and Eggs of Brown Pelican
Bird Island, June 17, 1926

Nest and Eggs of Ward's Heron
Bird Island, June 17, 1926

Nest and Eggs of Louisiana Heron
Bird Island, June 17, 1926

Nest and Eggs of Laughing Gull
Bird Island, June 17, 1926

Nest and Eggs of Reddish Egret
Bird Island, June 17, 1926

immediately evident that changes had taken place. The Brown Pelicans had abandoned their old quarters in the cactus and had established two large rookeries in entirely new locations, both being but a few steps from the water's edge on the open shell beach. The nests were arranged in long lines paralleling the shore in ranks of five or six, set near together, great heaps of weeds and sticks. Most of the nests contained three or four quite naked young who gaped and snapped at us as we passed. Only a few contained eggs. We were astonished at the great number of adult birds lying about dead.

The Ward's Herons, too, had moved to a new location and seemed greatly reduced in numbers. Nearly all nests contained young one-half to two-thirds grown.

The Reddish Egrets apparently had increased several fold and many of the nests were built flat on the ground. Nearly all nests

Eggs of the Black Skimmer
Bird Island, June 17, 1926

Young of Black Skimmer, "hiding"
Matagorda Island, July, 1926

contained eggs, a few holding young just hatched. One beautiful white one was found and agreeably posed for its portrait over its nest in the cactus.

The Louisiana Heron appeared to be no better than holding its own if indeed it was doing that. All nests contained eggs. Nesting conditions were unchanged.

The Laughing Gull was more widely dispersed, the grass and weeds in every direction being filled with their nests, all containing eggs. It was difficult to walk without stepping into a nest.

The Caspian Terns were found in more open situations than formerly and were divided into a number of widely separated colonies. Only a few nests contained newly hatched young and not a few nests held three eggs.

The Cabot's Tern was found occupying the identical spot used last year. Many hundred of eggs but no young.

The Royal Tern was more widely scattered, several colonies being found. In one case their eggs were lying within the limits of a Cabot rookery. No young.

Two nests of Black-crowned Night Heron were in the cactus, which the birds hurriedly left as we approached. They contained eggs. None of this species was found here last year.

The White Pelicans, seventy-five or one hundred in number, had all left the island and presented a beautiful picture as they swam in close formation only a short distance from shore. Presently we saw one leave the water and fly over and drop down into the cactus near the center of the island. We hurried to the spot and were delighted to find five nests, each containing one egg, and a large number ready for eggs. The nests were not nearly so elaborate as those of the Brown Pelican, being a mere depression in the sand with a handful of small sticks for lining. My information had always been that this species nested earlier than the Brown Pelican.

The Black Skimmers had just begun house-keeping only a few nests being found. Near one of their areas we found several nests of the Gull-billed Tern, another species not found last year. Its nest was a slight depression thinly lined with small twigs, each nest containing two eggs.

At a considerable distance we saw three white birds flying which might have been Snowy Egrets, Little Blue Herons or Reddish Egrets. As the white phase of the latter is so rare I should think it probable that they were assignable to one of the two first-named species, but they were too far away for identification. I had never before seen either a Snowy Egret or Little Blue Heron on the island.

A few Great-tailed Grackles were found as usual, and two dirty yellowish progeny of the Black Vulture hi sed at us from their home under the cactus.

Two Mottled Ducks were flying around and an Avocet waded in the water near shore showing no indication of having a nest.

Last year none of the terns smashed their eggs as we approached, but this time all three species resorted to this peculiar and rather heroic defense—only a few however.

Houston, Texas.

RICHARDSON'S GROUSE IN THE YELLOWSTONE PARK

BY M. P. SKINNER

The first ornithologist to visit the Yellowstone National Park was C. Hart Merriam, with the Hayden Survey of 1872. Dr. Merriam found this grouse (*Dendragapus obscurus richardsoni*) in the Teton Mountains south of the Park, but apparently did not see it within the Park itself. Two years later Theo. B. Comstock did find it in the Park, and so reported it (Comstock, 1874, p. 75). Geo. Bird Grinnell reported it again in 1876, and was the first to note that "the specimens preserved on the trip seem to be intermediate between varieties *obscurus* and *richardsoni*." During the next thirty years, other visitors to the Park observed this bird, but, as they were invariably on short trips, or interested more in other matters, it remained for Col. Wirt Robinson to be the first to note it in 1907 as breeding. At the end of this article is a bibliography of all material I can find on the Richardson's Grouse in the Yellowstone Park. Most of these items are but a line or two in length, and all of them combined, even including my own notes, would not cover much over one page of the WILSON BULLETIN.

The Richardson's Grouse, *Dendragapus obscurus richardsoni*, has no distinct terminal tail bands and is resident in the Rocky Mountains from northern Wyoming north to Canada. The Dusky Grouse, *Dendragapus obscurus obscurus*, has a terminal gray band in the tail varying from a half to three-quarters of an inch wide, and is an inhabitant of the southern Rocky Mountains south of Montana and Idaho. Here in the Yellowstone National Park, we are in the borderland occupied by both the southern and the northern forms. It is very difficult to place these Park birds under either *obscurus* or *richardsoni*, for there are birds of each form present and all degrees of gradation between them. I once found a bird dead near the Buffalo Ranch that had no band at all on the end of its tail. Twice I have seen very dark birds with only a slight amount of gray tipping their tails, so that they were more typical of the Sierra Mountain form. Another time, I found a bird so tame that I could approach close enough to determine positively that he had more than three-quarters of an inch of gray on the ends of the middle tail-feathers. At other times, I have found feathers with terminal bands more than a half inch wide. There does not seem to be any segregation of the two forms within the Park, but, so far as I know, the different forms are found in all sections. Both

obscurus and *richardsoni* are larger than Ruffed Grouse, but the Yellowstone specimens are even larger than the average.

These grouse have a fine range, for the Yellowstone National Park is a large and diversified area of 3348 square miles, lying mostly in extreme northwestern Wyoming. Although narrow strips extend over into Montana and Idaho, all my notes on these grouse were made in the portion of the Park in Wyoming. In such a section as this, including areas at different altitudes above sea-level, height above sea-level becomes an important item. The lowest point in the Yellowstone Park, at the junction of the Gardiner and Yellowstone Rivers, is 5300 feet above the sea; the highest point is six miles distant at the summit of Electric Peak, just within the northern boundary and 11,125 feet high. A large share of the Park is a lofty, rolling plateau varying in elevation from 7000 to 8500 feet altitude, but dotted here and there with isolated peaks and ranges of mountains rising to 10,500 or even 11,000 feet.

While the surrounding country is dry and comparatively rainless, such an elevated region as the Park is peculiarly adapted to attracting and catching moisture, ensuring a generous rain and snow fall, and enabling a variety of herbage and forests to grow.

The lowest elevations are treeless, except along the larger streams. Along the smaller streams, there are thickets of brush. If there is any of the Sonoran Life Zone represented in the Park, it is by very limited areas in this treeless, sage-brush-covered, open country. The Transition Zone is also comparatively limited, but it is well named. For in the Yellowstone, it is truly a "transition" from the treeless lowlands to the higher uplands where the aspens (*Populus tremuloides* Michx.) and Douglas firs (*Pseudotsuga mucronata* Raf.) make their appearance. The great bulk of the Park lies within the Canadian Zone, although an important part is Hudsonian, and is covered by forests of lodgepole (*Pinus murrayana*), limber pine (*Pinus flexilis* James), Engelmann spruce (*Picea engelmannii* Parry) and Alpine fir (*Abies lasiocarpa* Hook). But even throughout these forests there are frequent open spaces, called upland prairies and parks, and many open, grassy meadows along the numerous streams. Where the valleys are less open, the streams are apt to be bordered by dense growths of many species of low willows. A small portion of the Park lies above the last white-barked pine (*Pinus albicaulis* Engel.), at timber-line, and is consequently in the Arctic-Alpine Zone.

Generally, the Richardson's Grouse are in the Canadian or Hudsonian Zones, but I have also seen several individual birds above tim-

ber-line in the Arctic-Alpine Zone, and even a few down in the lowest parts of the Transition. Most of the nests I have located were in the Canadian or Hudsonian Zones, but occasionally one was in the coolest parts of the Transition. Normally in summer, these grouse are on the ground, or on low logs and boulders; and they live mainly in the evergreen trees while the snow covers the ground. But, when skiing through the winter forests in December and January, I have had roosting birds burst out from under snow drifts. At other times, most of these birds roost in heavy coniferous trees. If not disturbed, they may stay in a small grove of trees, and not descend to the ground for several successive days. At such times, they eat needles for food and use the snow instead of water. When in trees unalarmed, or when they alight there after a flight, they are usually on the lowest branches, or not more than half way to the top, sometimes perched with bodies parallel to the limb, or sometimes crosswise. I have never seen them on top of the foliage, and I have never seen them fly *over* the forest except just above the lowest of the trees. Richardson's Grouse live in all kinds of brush and forest from the willows as low as 5500 feet altitude, through the service-berry (*Amelanchier alnifolia* Nutt.) areas, aspen groves, Douglas firs, limber pines, lodgepole pines, spruce, and white-bark pines to the stunted spruces at timber-line (about 9500 feet). I have seen them out on the open plateaus and high meadows above timber-line, almost up to the 10,000 foot level. These timber-line birds were seen from July to October, but they apparently went down into the forests during the winter. I have seen these grouse in thick-growing lodgepole saplings where the small trees were so thick it appeared impossible for the grouse to walk or fly through them; and I have also seen them out in burned forests, especially where there were berries to be had.

While Richardson's Grouse prefer the forests, I have found them out in the sage-brush (*Artemisia tridentata* Nutt.), sometimes as much as five hundred yards from the nearest tree. Usually, they are wild in such localities, and soon fly to the nearest trees for protection; but on May 31, 1921, one was found hiding under a two-foot sage-bush in the open. I have also seen single birds in open grasslands without brush and as much as two hundred yards from the nearest tree; and once I rode my horse past one in full view in the grass and within twenty feet of me. No doubt this tameness is largely due to the fact that they are absolutely protected and have nothing to fear from man within the Park. They often come boldly about the buildings of the

little village at Mammoth, and even walk across the lawns, both in winter, and when the tourists are numerous in summertime. I have sometimes thought the birds liked the open in winter, because of the sunny warmth there. Still, they are also out in the open on the warmest of summer days.

On the ground, they have a rapid, running gait to escape danger, but they frequently "freeze" in their tracks when they think they are unseen. I see them occasionally strutting along with their tails fanned out and combs swollen, even long after the mating season. Usually they are well groomed, trim and erect, but often they appear to hide close to, or behind, the trunk of a tree.

Richardson's Grouse are not social. Even a mated pair separate as soon as the mating season is over, and the male does not later rejoin his family. In fact, the indications are, that the females hide their nests and keep their families away from the males. Neither do the males associate together. The only groups of these grouse are the families of mothers and full-grown chicks.

Some Richardson's Grouse are very wild, but this seems generally to be due to a recent scare, or fright, and they are just as apt to be wild in heavy cover as they are out in the open. On the contrary, most of these protected grouse are remarkably tame. I often see them sitting in the open and watching horsemen, and even autos, pass by but a few feet away. I have even seen a tame wild grouse follow a man up a trail (October 1, 1917), and my note books are filled with such observations as: "I rode my saddle-horse past a grouse in plain sight and only ten feet away" (August 14, 1922). Even when a grouse flies, it may go "only a hundred feet," or be "loth to fly more than a few feet," or be "so tame he only flies a few feet when I ride past." Even a mother bird with young sat quiet and unobserved until "one chick flushed from under my horse's feet." A mother and eight chicks seen on June 27, 1924, allowed an auto to dash by within five feet. But when they do spring up in alarm, Richardson's Grouse generally fly up into a fir, spruce, or pine to a limb not more than twelve to twenty feet above, sometimes perching there nervously and sometimes in absolute quietness.

Although not here hunted by man, these grouse have plenty of other enemies such as wolves, coyotes, mink, weasels and all the other predaceous fur-bearers, as well as the Duck Hawks, Coopers' Hawks and Western Horned Owls. The Big Western Red-tailed and Swain-

son's Hawks do not bother the grouse even when they are small. I remember once watching a red-tail circling over head. I could not see what it was hunting, but apparently it was not Richardson's Grouse, for almost at the same time an undisturbed grouse and seven little fluffy youngsters were noted in the grass under the circling hawk. Soon, the mother grouse flew up into a small sapling and from there clucked loudly to her brood, while the little grouse tried their best to fly up to her, one at a time, on very shaky little wings. Sometimes I see a Richardson's Grouse with many tail-feathers missing, as if it had just escaped an enemy by the sacrifice of a few feathers. They rise suddenly from the ground with a thunderous racket, but usually fly quietly out of a tree. Often they sail away from a tree branch and off down a mountain slope without beating a wing. If they alight on the ground after such an alarm, they usually walk a short distance immediately afterward. Once while eating lunch, I saw a flock of grouse fly across a small pond rather than go around the end. Like other grouse, these birds are apt to fly one after another rather than all together as Bob-whites do.

Neither the Richardson's Grouse nor the Gray Ruffed Grouse (*Bonasa umbellus umbelloides*) are very abundant here, for the enemies just enumerated also thrive under the protection given to all wild life. The Richardson's Grouse are resident birds with only a limited migration down the mountains in the autumn when the heavy snows fall. On the other hand, they are great wanderers throughout their range in the Park, often making unexplained journeys on foot and by short flights, for miles, at all seasons, except when encumbered by young birds.

Their food consists largely of berries, such as bear berries (*Arctostaphylos uva-ursi* L.), huckleberries (*Vaccinium scorparium* Leiberg), high bush blueberries (*Vaccinium membranaceum* Dougl.), service-berries (*Amelanchier alnifolia* Nutt.), false buffalo berries (*Shepherdia canadensis* L.), raspberries (*Rubus strigosus* Michx.), gooseberries (*Ribes saxosum* Hook and *Ribes parvulum* Gray), and strawberries (*Fragaria americana* Porter). In addition they eat many insects, especially grasshoppers. When other food becomes scarce they eat fir, pine, and spruce needles. On July 26, 1921, while I was seated quietly at lunch, a mother grouse surrounded by her brood of seven half-grown young, walked past me. They moved along in open order with the mother in the middle; at times a chick would stop to eat a raspberry, or to catch a small grasshopper, and then run hard to catch up with the rest. I do not find the Richardson's Grouse to

be as fond of dust baths as the Ruffed Grouse are. Occasionally they resort to the roads for dust and gravel, but not often. On the other hand, *richardsoni* likes to take sun baths.

These birds have a peculiar booming call, often heard in the spring. When the air is still, or early in the morning, this sound may carry quite a distance. Richardson's Grouse has no ruff, but it does have a naked sac on each side of the neck that is extended and displayed during the courting. Courting is done in April by the male birds, and at such times they seem absolutely indifferent to danger and allow me to approach very closely. A courting male spreads his dark tail in a big fan at right angles with, and over, his back; he droops his wings until they trail on the ground; he swells out the naked orange-red gular sacs in the center of, and vividly contrasted with large rosettes of white feathers reversed on the sides of his neck; his head is drawn back until the neck seems to disappear entirely; and two small brilliant yellow sacs, one over each eye, are expanded to their fullest extent. In this posture, the male struts and parades in circles; he nods his head jerkily up and down half a dozen times; then runs quickly four or five steps to one side or the other, with his head and neck held stiffly out near the ground. None of the birds I saw doing this, uttered a sound *at the time*. After such a display, the male bird continues strutting and parading, but with gradually diminishing force and energy. These displays take place with the bird on the ground, or on low rocky platforms. Sometimes these ceremonies are in the immediate presence of the females, and sometimes actually out of sight, although a female is almost always in the neighborhood.

Nesting takes place in May, and the nests are usually placed at the foot of forest trees at any altitude from 6300 to 8000 feet, and perhaps even above the last named height. The Richardson's nests are shallow depressions lined with grass, pine needles and leaves, and contain from seven to ten creamy eggs speckled and blotched with brown. Fresh eggs are laid from May 10 until almost the first of July in belated cases. The little chicks hatch from June 15 to July 15, and can run about quite nimbly as soon as they are out of the shell. These youngsters are astonishingly expert at hiding, and they can fly when very small; but for unknown reasons and even after making allowance for all known enemies, the mortality of young grouse is unusually high in the Yellowstone. Yet, their mothers take good care of them, although the fathers pay no attention whatever to their families. I remember watching one brood in late June beside a main road. The mother grouse permitted autos to dash by within a

few feet, but when she finally moved off, she did so very alertly. So solicitous was she, that she did not feed, but spent all her time watching and guarding her brood of eight chicks that were less than a week old. These tiny balls of down were very quick and darted here and there over the stony ground, and in and out amid the sage and tufts of grass.

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Jamestown, New York.

WHERE DO BIRDS SPEND THE NIGHT?

BY LAURENCE M. HUEY

The interrogative form of the above title is intentional. Certainly the writer would not undertake to answer the question, and probably there are but few ornithologists who could state with certainty where many kinds of birds spend the night. To be sure, there are published references to such sleeping haunts as the chosen "roosts" of crows, the chimneys into which migrating swifts pour at sundown, the marshes where hordes of tree swallows congregate when the day is closing, and similar conspicuous night retreats of certain birds. But the individual small birds—where are their sleeping places? This is a question that naturally arises in the mind, when, for instance, one sees the same individual song sparrow on the feeding table morning after morning, but not no clue as to where it has been hiding during the hours of darkness. It must have been in some safe place, for danger stalks our feathered friends by night as well as by day, a danger that has been intensified through the man-caused introduction of the house cat, with its consequences beyond control.

This problem of all diurnal birds, during the period when they are mentally inactive or, if awakened, cannot see to escape, has been a subject of especial interest to the writer. During fifteen years of field work he has kept particular watch for the roosting places of birds, yet few have been the opportunities to find birds asleep. Perhaps some of his observations, all made in the far southwest, when added to what others have written, may throw a little more light on this little-known subject.

For some birds the answer is easy. We know that woodpeckers sleep in their holes in trees or large cactuses—not of their own construction, perhaps, but woodpecker holes, nevertheless. Migrating flickers resort at times to old buildings, where they chisel holes through the walls beneath the eaves and get into the attics. On the western deserts, Verdins and Cactus Wrens keep their nests in repair, that they may there spend their nights in comfort and out of sight or reach of their nocturnal enemies, whether fox or owl.

The quail of California roost in trees, where they can find safety amid a dense cluster of twigs—sometimes several birds in close company, if the weather is cold. But quail once offered the writer a problem when he was collecting in the treeless region of central Lower California, Mexico, and found these birds fairly swarming. Coyotes and other carnivores were abundant, horned owls were present, yet

quail thrived. Where could they spend the night in safety? For days the writer pondered and suddenly the answer was found. The cactus with its myriads of needle-like spines kept guard over the quail during the night. Nor did they perch on the branches—the thorns would not permit—but, by resting on the ground in dense cactus thickets, they were safe from all harm. In one place, an area at least ten feet square, near the center of a large patch of cactus, was used as a roosting place by a large covey of quail and here fecal matter to the depth of four inches had been deposited. Thus was explained the fact that, in numerous cactus thickets, the entire center was found to be dead, dying, or entirely missing—the result of too much manure. now decayed and indiscernible, for the growth to withstand.

Once, when the writer was encamped in an oak-filled canyon near Escondido, San Diego County, California, for several weeks during the late fall, a Plain Titmouse came nightly to roost in an oak tree, within a few feet of the tent's door. The perch selected, which was the same every night, was a small twig less than six inches in length that grew directly beneath and paralleled a huge horizontal limb at least sixteen inches in diameter. This twig held a dozen luxuriant leaves and formed both a screen and a wind-break for the sleeping bird. So fixed was the titmouse's choice of this particular roost that the presence of chattering humans with a bright light and campfire mattered not at all.

Recently the writer spent a fortnight about ten miles southeast of Alamo, in the mountains of northern Lower California, Mexico. His camp was established near an old adobe ruin, where, after a few days, a Say's Phoebe was noticed early in the morning and again at sunset, with precise regularity. This occasioned some speculation, and not until it was discovered that the bird had a chosen roosting site nearby, were its actions explained. It happened that the adobe house still retained a partial roof and the writer, having numerous skins and skulls of large animals in the course of drying, had improvised a rack under the shelter of the roof. On the evening when the phoebe's secret was discovered, an inspection tour was made about 10:30 to see to the safety of the specimens. Before entering the doorless doorway of the old building, a chance glance upward revealed, almost directly over the doorway, an old nest of a Black Phoebe and, protruding from the edge of the nest was a bird's tail. A closer look showed the preemptor to be none other than the regular-twice-daily-occurring Say's Phoebe. Blinded by the light, the bird did not flush, but tried to crouch more closely into the cup of the nest.

Every night thereafter the phoebe was looked for and always found. On two occasions, when the weather had turned decidedly cooler, the bird resorted to a niche in the wall a few inches above the nest; otherwise it was always in its favorite spot. Its habit of shyness when evening came was interesting; for the phoebe would never venture near the roost if any moving thing, whether horse or man, were visible within a hundred feet.

It is customary to think of protective coloration as applying only during daylight hours. Such, however, is not the case, for on occasions too numerous to recall the writer has attempted to find wild birds on their roosts by the aid of bright electric torches or gasoline lanterns, but never with success. This has been in spite of unusual opportunities for such a search, occasioned by the necessary inspection at night of long lines of mouse-traps set in the varying conditions of mountain, marsh and desert. And so the question of where birds spend the night will continue to run, answered only bit by bit, although each new answer will be interwoven with some tale of interest.

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NOTES ON THE RAILS

BY E. D. NAUMAN

These most peculiar and shy birds are so rare in this part of the state (Sigourney, Iowa), that during a period of fifteen years of careful observation of all our birds, only eight individuals belonging to four species of rails have come under my observation. So far as I know none of them breed here. If they do, I have never been fortunate enough to discover a nest.

The larger marshes and ponds in this vicinity have mostly been drained long ago and converted into cultivated fields. Consequently few nesting sites suitable for rails remain. Migratory birds as a rule return each summer to the locality where they were reared. It is also a fact that the life of most of our smaller birds is rather short. These facts account for the great scarcity or total absence of birds from localities where their nesting sites have all been destroyed.

Following is a list of the rails which it has been my opportunity to observe and an account of the circumstances under which they were seen.

On May 5, 1914, I was walking through a damp and marshy meadow when one of the little Black Rails raised up in front of my

feet, flew ahead a short distance then dropped into the grass again, and although I hunted and beat the grass about this spot for some time I was unable to flush or see it again.

On May 9, 1918, I found the dead body of a Sora Rail on the pavement directly under the line of some twenty-five electric wires, on one of our city streets. There had been a heavy wind, rain, and thunder storm the night before and this bird had no doubt become bewildered in flight, bumped into these wires and killed itself. On the 16th of the same month I saw another Sora daintily running along the edge of a small pond and disappearing in the grass.

On June 1, 1920, I saw a Virginia Rail running along the roadside near a small marsh and disappearing in the grass and weeds. Owing to the lateness of the date and the proximity of the marsh, this may have been one of a nesting pair, but I was unable to locate a nest or again to see the bird.

On April 16, 1921, we had one of those erratic Iowa snow storms which dressed the earth in a coat of white to a depth of about eight inches. We have a farm residence located about sixty rods from the river near here. At the date of which I write my daughter and her family were residing upon this farm. On arising in the early morning of the 17th and looking out of the window she beheld not only the great expanse of white, but to her great surprise a fine specimen of the King Rail which was walking about on the porch floor picking up a few stray crumbs and anything else that might help to sustain life for a cold and exceedingly hungry rail. The poor bird had no doubt been flying in the icy air until its wings refused to carry it any further and seeing this porch floor free from snow, it alighted there and began as best it could to satisfy its hunger.

On being disturbed of course it flew away, but my daughter supposing it would soon be back scattered some food on the floor. She was not disappointed for in a short time the bird was back and by the way it devoured the food it showed plainly that it was nearly starved. It also came back a number of times later to obtain a "hand out" at that back porch, until the snow went away so it could find food more to a rail's taste, after which it was not seen again. How the rails that did not find food and shelter during those awful days may have fared is not a pleasant matter to contemplate.

On April 14, 1921, and again on May 20, 1925, I saw single individual Soras. Both of these were feeding at the water's edge of West Creek. I watched the latter for fifteen minutes at close range. Part of the time it attempted to hide among the weeds or under drift wood,

but though I approached within ten feet it did not fly. After eyeing me curiously for a few minutes it went on hunting for food again.

On October 1, 1925, while walking over a blue grass pasture, I came to a ditch or washout ten feet or more in depth. Chunks of sod had slid down the sides of this ditch more or less of the way so as to give it a terraced appearance. In crossing this ditch I was stepping and hopping from one of these sod patches to the other when suddenly one of the little Black Rails flew from under my very feet. It dropped down again just as suddenly about fifteen feet from me and attempted to hide about one of those grass patches. I approached cautiously to get a good view, but since it met with little success in hiding, it soon flew out of the ditch and disappeared.

SIGOURNEY, IOWA.

AUXILIARY GUN BARRELS FOR COLLECTING BIRD SPECIMENS

BY W. G. F.

As time elapses and the older generation of ornithologists and collectors of bird specimens pass on, or become inactive, it happens that many of the younger men taking their places in the ranks of bird students are but little acquainted with the art of preparing scientific skins or the proper equipment for shooting the birds.

The writer in his later years having recognized the importance of, occasionally at least, collecting and preserving specimens of birds has experimented with a variety of gun calibers, different barrel lengths and especially, various types of small caliber auxiliary barrels. Therefore in the present paper it is proposed to describe and discuss some simple and easily made types of auxiliary barrels suited for use in 12-16-20-, or even smaller, gage shot guns, together with suitable ammunition therefor.

By the use of such small caliber barrels or bushings temporarily inserted in the chambers of ordinary shot guns, small birds may be collected at distances of twenty to sixty feet without mutilation. Less noise is made and particularly the bulk, weight, and cost of the ammunition are less. Lessened weight and bulk are important when one goes into the field prepared to shoot anything from hummers to eagles! The writer believes in "preparedness" although he never has shot either a hummer or an eagle.

After experimenting with guns shooting shot shells, from smooth bore .22s and .32s to a 12-gage long range gun chambering 3 inch shells I recommend for ordinary collecting purposes, a 16-gage, 28 inch or

30 inch double-barrel shot gun (left barrel full choke) fitted with 410 bushing for each barrel. But I still carry with me on extended collecting trips the 12-gage, long range gun for occasional use.

With those who prefer the 20-gauge double gun and can shoot closely enough to warrant its use for wing shots I have no argument. I do not favor a 410 double gun for general use, but it has its place in the jungle for small birds.

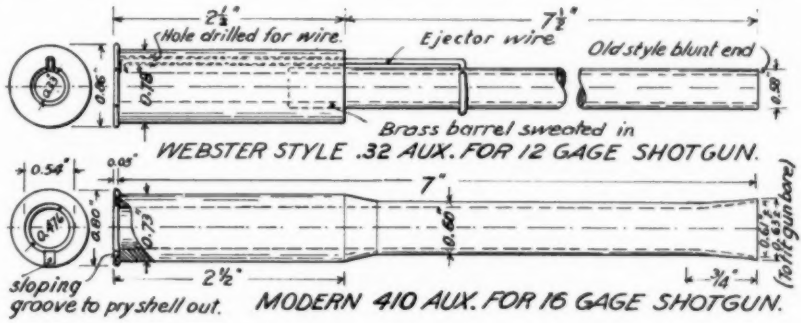
The Harrington and Richardson Arms Company, of Worcester, Mass., make a serviceable smooth bore, single shot 410 pistol in both 8 inch and 12¼ inch barrels. The latter makes much the better pattern and less noise. Such a gun is useful sometimes as a hand collecting gun when a double-barreled gun would not be carried. The 12¼ inch gun will get the smaller birds up to forty feet or so. This gun is 17½ inches over all and weighs 2 lbs. 10 oz. If it tends to shoot over, due to recoil with the heavier loads, use both hands.

The auxiliary barrels or bushings used in 12-, or 16-gage shot guns by our earlier collectors were mostly .32 caliber, using reloadable brass shells. This caliber is fine for small birds at distances of fifteen to perhaps thirty feet. It permits shooting from a shorter distance than with the 410. The 410 (12 mm.) shot shell used in a short auxiliary barrel is suitable for distances of twenty to forty-five feet using shells 2 inches long, or up to about sixty feet using shells 2½ inches long. A 410 gun will chamber .44 caliber ammunition. The diameter of the 410 shells is about .466 inch, and of the .44 caliber, about .463 inch.

For hummingbirds dust shot is suitable, but for warblers, small sparrows, and others within this size limit the best shot is No. 12 chilled. The great number of pellets in a load of dust shot is likely to riddle a bird and cause too great a loss of feathers. For the larger sparrows use No. 10 shot; for blackbirds and grackles use No. 9 shot. In general, use as small a load of as fine shot as will reach the bird and at the same time give a pattern dense enough to put several pellets into the bird.

The 410 loaded paper shot shells now are carried in stock in most ammunition stores, but usually nothing smaller than No. 7½ shot, although No. 9 is a standard catalog load. Until this year No. 10 was a cataloged load. Numbers 10 and 12 shot will be loaded on special order, in lots of 500 shells. The 410 No. 7½ is very useful for dispatching wounded hawks and other large birds and for shooting large birds close by, as often must be done in dense bush or jungle.

The loading of one's own 410 ammunition is a simple matter, requiring no special equipment except such as easily can be made at home in two hours time. Usually it is best to purchase the unloaded paper shells already primed. After some experimenting with black powder, which still is the choice of some old collectors, I favor a good grade of smokeless, as the grains are finer and more uniform in size—both important items in small loads. I follow the old rule of equal bulk of powder and shot, as this gives a better short distance collecting load. Too high velocity is more likely to injure the specimen. Place a cardboard wad on top of the powder also one felt wad in the 2 inch shells and two felts in the 2½ inch shells. Do not ram hard enough to distort the shells; however, if the shells are a bit swelled after loading, a bit of rolling between two hard smooth surfaces will remedy this. The closing or crimping may be done easily and neatly without



a special tool by twirling the loaded shell, open end down on a piece of polished hard wood or metal; starting with the shell axis at an angle of 45° with the surface and ending vertically. This is very quickly done. Leave one-eighth inch or a little more above the top cardboard wad for this crimping. It is well to have different colored cartridges for different loads or to mark shot size plainly with ink on side of shell, as the above described method of closing prevents marking shot size on the top wad.

Having described the advantages of the small caliber bushing and discussed the ammunition for it, we now come to the article itself.

As commonly made for either .32 caliber or 410 sizes, for use with modern so-called slow or progressive burning powder, the auxiliary barrel should be as long as one feels he can conveniently carry in his pocket. For practical purposes, 10 inches is long enough, while 7 inches or 8 inches will be less troublesome to carry. In the shorter lengths especially, when using modern powders, there results some incompletely burned gases in the barrel of the gun at the muzzle of the

auxiliary, which gases cause corrosion of the gun barrel. The priming cap now in use with the smokeless powders also causes corrosion. The corrosion is mostly within two or three inches from the muzzle of the aux. This corrosion may be much reduced by using an 8 inch or 9 inch aux having a bell-mouth in the last three-quarters inch as shown in the drawing. Such a bell-mouth fitted rather closely to the bore of the gun prevents an eddy of unburned gases as will occur with a blunt ended aux smaller than the gun bore. No doubt the use of this bell-mouth improves the pattern. Its use was suggested by the writer's experience in hydraulics.

The material of the aux should preferably be brass, as corrosion is then negligible. The clearance of the aux in the gun barrel should be sufficient for it to slip in and out easily and the same is true of its bore, so that no ejector will be needed for the small shells.

At the breech of the 410 aux shown, there is indicated a square section slanting groove, in which to use a knife point or some other narrow tool to pry out a shell that tends to stick. Some aux users carry a little rammer to drive out any troublesome shell. Once in a long time I have had to cut such a rammer from a bush.

Some of the .32 caliber auxiliaries were provided with a wire ejector placed in a hole drilled longitudinally through the side wall of the rear enlarged part of the aux. There is hardly enough thickness of side wall of a 410 aux even for 12-gage gun to safely permit such an ejector, but it is not needed if the bore is made sufficient. The cost recently, of such auxiliary barrels of brass 7 inches long made to order one at a time in a jobbing machine shop has been $5.25 each.

The advantage of having two auxiliary barrels is just the same as that of a double-barreled gun over a single. Commonly I carry a 16-gage hawk load in the left (choked) barrel and one aux in the right barrel, with the second aux with a different load in coat pocket, ready to change into either barrel. A narrow pocket sewed on the inside of the coat is a handy way to carry the aux. When a short bell-mouthed aux is carried loosely in a side pocket with small shells it sometimes picks up a reversed shell in the bell-mouth. While such a loose plug might not split a barrel, I prefer not to experiment with it.

As the bore of shot guns of same gage varies so greatly at different distances forward of the shell chamber, it is best to take the gun barrel to the shop where the aux is to be made. The bore of the choked barrel of a gun is commonly larger than the cylinder barrel at a distance of 7 inches or 8 inches from the breech.

Jackson, Mich.

NOTES ON THE OCCURRENCE OF SHORE BIRDS AND WATER-FOWL ON A NEW ARTIFICIAL LAKE[1]

BY SAMUEL EDDY

Lake Decatur is an artificial body of water created in 1922 by damming the Sangamon River at Decatur, Illinois. The lake is about twelve miles long and averages over one-half mile in width. The upper end of the lake is quite shallow with extensive swampy shores. Large areas are covered by marshy islands covered with a rank growth of vegetation. The lower end of the lake skirting the edge of the city is quite deep, ranging from twelve to fifteen feet in depth. From this region several shallow inlets formed by old creek valleys radiate away from the city. The largest of these is the Big Creek inlet which extends for several miles, ending in a swamp which duplicates the conditions of the upper lake on a smaller scale.

The former Sangamon River on the outskirts of the city of Decatur was a small turbid stream typical of central Illinois. Lined with willows, bottomland forest, and corn fields, the only waterbirds common to it were the little Green Heron and the Kingfisher. During the spring floods an occasional flock of Mallards, Blue-winged Teal, or a few Coots and Pied-billed Grebes rested on the backwaters. Other waterbirds were rare visitors and seldom seen. The former rare birds and others which were never seen before appeared in great abundance on the new lake. During fifteen years of observation, which the writer has made on the river and lake, only one bird appears on the list which has not been observed on the lake or nearby. This was the Loon noted on one occasion in 1915.[2]

With the formation of the lake the bird population changed rapidly. The gates of the lake were temporarily closed in the fall of 1922, and almost immediately migratory Redheads, Canvas-backs, Mallards, and Lesser Scaup Ducks appeared by the thousands on the waters of the half filled lake. Although the summer cottages and city homes have rapidly appeared about the shores of the lower lake, the remarkable thing is that the migratory waterfowl continue to swarm there. On one occasion the writer noted forty-eight Coots feeding on the grass of a lawn within the city limits. No shooting is allowed on the lower lake which probably accounts for the greater abundance of the waterbirds closer to the city.

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[1]Contributions from the Zoological Laboratory of the University of Illinois under the direction of Henry B. Ward. No. 301.

[2]Since writing this paper, five Loons were observed on the lower lake, October 30, 1926.

More breeding areas have greatly increased the number of breeding birds. This large area of water has proved to be a favorite resting place for many migratory species. Ducks, geese, and herons have shown a great increase both in numbers and in species. Shorebirds were never rare in the old bottom lands during migratory season and now they are much more abundant in the swamps and marshes at the head of the lake and the nearby inlets.

The rails are apparently about as numerous as they were in the old river bottoms considering the more abundant area suitable to them at present. The King Rails and Soras have often been noted in the marshes about the lake. However, owing to the difficulty of observing them, not much information is available concerning them. The American Bittern does not seem to be as abundant on the lake as on the river. This may, however, be due to the more inaccessible places now available to the Bittern. The same seems to be true of the Least Bittern.

This bird, probably owing to its small size and to its shy disposition, has always seemed rare. The herons have shown a very noticeable increase with the creation of the lake. Several American Egrets[3] were noted on the upper lake during the summer of 1925. The Black-crowned Night Heron was rather uncommon on the old river. Now it is very abundant on the lake throughout the breeding season. The Great Blue Heron was only occasionally observed on the river. It is very common about all the shores of the lake. The Green Heron was always very common on the river. It is just about as common on the lake, being more confined, however, to the inlets.

PIED-BILLED GREBE. *Podilymbus podiceps.* This bird was always fairly abundant during migratory season on the river, especially on the backwaters. It has always been abundant in the spring and fall on the shore waters of the lake.

LOON. *Gavia immer.* Not yet observed on the lake, although it probably will occur. One bird of this species was secured on the river in 1915.

KITTIWAKE. *Rissa tridactyla.* Several of these birds were observed on the lower lake during a severe cold spell in December, 1923. This was the only occasion that they have been identified.

HERRING GULL. *Larus argentatus.* Very common on the lake in the spring and fall and throughout most of the winter. Not known to breed here. Never observed on the old river.

[3]During the month of August, 1926, Egrets were abundant on all shores of the lake. Groups of ten or twelve were a common occurrence. At this time, a single Snowy Egret was reported from the upper lake.

RING-BILLED GULL. *Larus delawarensis.* Never observed on the spring and late fall of 1924, 1925, and 1926. Never observed on the river. This bird was quite abundant on the lower lake in the early river.

BONAPARTE'S GULL. *Larus philadelphia.* Several of these birds were identified on the lower lake on May 1, 1926. This is the only time that it has ever been observed in this locality.

FORSTER'S TERN. *Sterna forsteri.* Never observed on the river or lake until May 1, 1926. Quite abundant on the upper lake on this date.

COMMON TERN. *Sterna hirundo.* Several of this species were observed on the lower lake in the spring of 1924 and 1925. Never observed before.

LEAST TERN. *Sterna antillarum.* Several of this species were identified on the lower lake, May 31, 1925. Never observed on the river.

BLACK TERN. *Clidonias nigra surinamensis.* Never noted on the river. This bird has been quite common on the lake during the summers of 1923, 1924, 1925, and was observed in May, 1926.

DOUBLE-CRESTED CORMORANT. *Phalacrocorax auritus auritus.* Never noted on the former river but very common on the lower lake during the migratory season in 1924, 1925, and 1926.

MERGANSER. *Mergus americanus.* Very abundant on the lower lake throughout the winter of 1925-26. Often flocks of several hundred lined the edges of the ice about the open water. These birds left about April 5, 1926. They had not been observed prior to the spring of 1925.

RED-BREASTED MERGANSER. *Mergus serrator.* Several small flocks were observed in April, 1926, on the Big Creek Inlet. This is the only time this bird has been observed in this locality.

HOODED MERGANSER. *Lophodytes cucullatus.* Two pairs were observed feeding in company with Mallards and Pintails in the swamp at the head of the Big Creek Inlet, April 5, 1926. Never observed before.

MALLARD. *Anas platyrhynchos.* Quite common on the former river during migratory season. Very abundant on the lower lake during migration. Flocks of several hundred are a common sight. Abundant in 1926 from January 24 until April 11. A few Mallards breed in the swampy areas.

BLACK DUCK. *Anas rubripes.* Abundant in the spring migration of 1926, from January 31 to April 4. Not observed before.

BALDPATE. *Mareca americana.* Abundant on the lower lake in company with Pintails during the migration 1925-26. Never common before.

GREEN-WINGED TEAL. *Nettion carolinense.* Common in the migratory season in the inlets. Very abundant in April, 1926, in the swamps at the head of the Big Creek Inlet. Rarely observed on the former river.

BLUE-WINGED TEAL. *Querquedula discors.* Very abundant in the marshes at the heads of the inlets during migration. Rather common but never as abundant on the sloughs and backwaters of the old river.

SHOVELLER. *Spatula clypeata.* Common in migratory season in the swamps and along the shores of the lake. Rather a late arrival. Never very abundant before the formation of the lake.

PINTAIL. *Dafila acuta tzitzihoa.* This bird was very abundant in March and April of 1926, resting on the open waters and feeding in the inlets of the lower lake. It was not abundant until 1926.

WOOD DUCK. *Aix sponsa.* This bird was not observed by the writer but several flocks were reported by a competent observer in the fall of 1926 as feeding and roosting in an oak grove at the upper end of the lake. Never observed or reported before.

REDHEAD. *Marila americana.* Abundant on the open and shore waters of the lower lake in both spring and fall migrations. Often observed in flocks of more than a hundred. Small flocks of these birds were formerly found only on the larger sloughs of the old river during migratory season.

CANVAS-BACK. *Marila valisineria.* This bird seems to have the same distribution and abundance as that of the Redhead. Owing to the close resemblance to this species, identification was not always satisfactory.

SCAUP DUCK. *Marila marila.* Very abundant on the open waters of the lower lake during migration. Rarely seen on the river.

LESSER SCAUP DUCK. *Marila affinis.* Very abundant on the lake during migration. This is one of the last ducks to leave in the spring. Not uncommon on the former river but much more abundant on the open waters of the lake.

RING-NECKED DUCK. *Marila collaris.* Only one pair observed on the Big Creek Inlet, April 5, 1926. Not observed before.

BUFFLE-HEAD. *Charitonetta albeola.* Several observed in February, 1926, on the lower lake. Never observed before.

HARLEQUIN DUCK. *Histrionicus histrionicus.* One pair reported on the Big Creek Inlet by a competent observer April 4, 1926. This is the only local record for this bird.

RUDDY DUCK. *Erismatura jamaicensis.* This bird is never very abundant although there have always been a few on the lower lake during migration. Generally a late arrival about the first of April. Not observed on the former river.

WHITE-FRONTED GOOSE. *Anser albifrons gambeli.* Never observed on the river. Only observed once on the lake, April 5, 1926, when a flock of forty-eight were observed feeding at the head of the Big Creek Inlet.

CANADA GOOSE. *Branta canadensis canadensis.* This bird was rarely found on the former river. It is quite abundant on the lower lake during migration. During the winter of 1925-1926 a few remained around the open water until spring.

AMERICAN COOT. *Fulica americana.* Although this bird was never rare during migration on the river, it is much more abundant at that season on the lake. Flocks of several hundred feeding on the grass of nearby pasture lands are a common sight.

AMERICAN WOODCOCK. *Rubicola minor.* Observed on several occasions during migratory season in the former river bottoms. Not observed on the lake marshes but probably occurs rarely as it was noted several miles from the lake in May, 1926.

WILSON'S SNIPE. *Gallinago delicata.* Occasional in the wet areas of the river bottoms during migration. Observed in large numbers in May, 1926, on the marshes of the upper lake.

PECTORAL SANDPIPER. *Pisobia maculata.* This bird was observed on the Big Creek Inlet, May 10, 1925. Very rare on the former river.

LEAST SANDPIPER. *Pisobia minutilla.* Observed in small flocks in May, 1925, on the Big Creek Inlet and in May, 1926, on the upper lake. Not observed before although it undoubtedly occurred.

SANDERLING. *Calidris leucophaea arenaria.* Not observed until May 17, 1926, in the marshes of the upper lake.

GREATER YELLOW-LEGS. *Totanus melanoleucus.* This bird was an occasional migrant on the river. Now it is very abundant during migration on the marshes of the upper lake.

YELLOW-LEGS. *Totanus flavipes.* Never as abundant at *T. melanoleucus.* Occasional on the river. Observed in May, 1925, at the head of the Big Creek Inlet. Only occasional in the more remote marshy regions of the lake.

Solitary Sandpiper. *Tringa s. solitaria.* Always common during migration on the banks of the river. Abundant on the marshy shores of the lake especially in the spring.

Upland Plover. *Bartramia longicauda.* Not observed on the former river or on the present lake shore but it was occasionally found on the nearby uplands.

Spotted Sandpiper. *Actitis macularia.* This bird was always very common along the banks of the river throughout the breeding season. It is very common about the lake especially in the inlets and marshes.

American Black-bellied Plover. *Squatarola s. cynosurae.* Not observed on the former river but noted on the lake May 24, 1925.

Golden Plover. *Pluvialis d. dominica.* Rather rare in the wet areas of the former bottom lands. Observed May 10, 1925, on the Big Creek Inlet and in great abundance on the upper lake on May 1, 1926.

Killdeer. *Oxyechus vociferus.* Not limited to any extent in the immediate vicinity of the lake. This bird has always been common throughout the surrounding uplands of both lake and river.

Semipalmated Plover. *Aegialitis semipalmata.* Not observed on the former river but quite common on the shores of the lake in May, 1925 and 1926.

Urbana, Illinois.

A BRIEF STUDY OF CANADIAN LIFE ZONE BIRDS IN HIGHLAND COUNTY, VIRGINIA

BY JOHN B. LEWIS

For a number of years my son, M. G. Lewis, of Lexington, Virginia, and myself had planned to go to Highland County in the nesting season, for the purpose of studying the birds of the Canadian Fauna, which reaches a long finger down the back-bone of the mountains; but not until last June were we able to realize our dream, and then for only two days, which is too short a time to do anything like justice to the work.

We motored from Lexington to Staunton, and then turning northwest, drove into Highland County, over a fairly good road and through scenery of ever-increasing beauty and grandeur. We crossed ridge after ridge, each a few hundred feet higher than the last. As the altitude increased the hemlock, white pine, butternut, and white birch began to appear in the landscape; and numerous wild flowers new to us, including the rhododendron and flame-colored azalea, were seen on the mountain-sides.

At sunset we camped near the highest point reached by the road in crossing the gap in the mountains, before beginning the descent into the valley of Jackson River, in which is located the village of Monterey. This was not far from the head of Crab Run, and for convenience we will call it Crab Camp. According to the Geological Survey map the altitude of our camp was about 3,400 feet, while the top of the ridge, which we climbed the next morning, was around 300 feet higher.

We were out at 4:00 A. M. the next morning, June 9, and climbed the mountain on the south of the gap. The mountains have a strong limestone soil, and where not too rocky, are cleared and grazed. After spending four hours on this mountain, we drove down the three or four miles of descent into Monterey, purchased some food, and then went down Jackson River and up Back Creek, looking for birds and enjoying the scenery.

We then began the ascent of the highest mountain in that section of the State, which is known as Sounding Knob, and which rises to a height of 4,400 feet. It is cleared and blue grass covers about half of its surface, including the entire top. We drove the Ford as far up as the rough trail would permit and made camp. That afternoon we went on to the top on foot, a distance of about three miles horizontally, and close to 1,000 feet vertically.

On the morning of the 10th. we were out again at daylight, and worked until 10:00 A. M., when we had to start on the return trip. I give below a list of the birds observed by us, which are found only at high altitudes in this latitude. Due to the short time we were at work, we doubtless failed to find many that are present.

YELLOW-BELLIED SAPSUCKER. *Sphyrapicus varius.* A pair was found feeding young in a nest in the dead top of a Chestnut tree well up on Sounding Knob. The nest tree was in the edge of woods on the upper border of a pasture. The nest hole was thirty-five feet up.

NORTHERN RAVEN. *Corvus corax principalis.* Three were seen flying over Sounding Knob, being distinguished from the Crow by their much larger size.

CAROLINA JUNCO. *Junco hyemalis carolinensis.* One of the most abundant nesting species at 3,000 feet and above, frequenting bushy pastures and borders of woods. Two pairs feeding young were found on top of Sounding Knob.

CEDAR WAXWING. *Bombycilla cedrorum.* I give the following observations for what they are worth, as they may not mean that the cedarbird was nesting in that locality. Just before dark on the eve-

ning of the 8th, four cedarbirds circled about over Crab Camp for a few minutes and then flew to the wooded mountain side above us. At about 8:00 o'clock the next morning four birds, probably the same ones, came from the same locality and went through with the same performance, returning as before to the woods higher up. We had not time to make anything like a careful search for nests.

GOLDEN-WINGED WARBLER. *Vermivora chrysoptera.* Found in scattered trees in pasture above Crab Camp. It is slow in its movements and keeps much to the tree tops. Constantly repeats its *Z-e-e-e De-de-de* song. Its actions indicated that it was breeding, though we found no nest.

CAIRNS'S WARBLER. *Dendroica cerulescens cairnsi.* Found in heavy timber, high up the side of Sounding Knob at an elevation of around 4,000 feet. It is very active and keeps to the tree tops. It is also very elusive, often flying several hundred yards when approached. The song is quite different from that of the typical Black-throated Blue Warbler. My description of it written in the field is: *Chick-chick-chick-e-e-e-e-e-e*, the concluding thrill being a tone and a half higher than the three first notes.

MAGNOLIA WARBLER. *Dendroica magnolia.* On the morning of the 10th, shortly before we had to leave, a warbler new to us began singing from the tall oaks around our camp half way up Sounding Knob. We began looking for it with our glasses, and I took down its song in musical notation. M. G. got one good look at it and pronounced it a Magnolia Warbler. Before I got my glass on it, it left, and we heard it no more. The song which I recorded agrees very closely with one of the songs of the Magnolia described by Chapman in the "Warblers of North America."

CHESTNUT-SIDED WARBLER. *Dendroica pensylvanica.* Fairly common both at Crab Camp and Sounding Knob. The first one we saw was in a brier thicket on the roadside at an elevation of about 3,000 feet. Those found later were mostly in the low growth in woods. One pair was observed feeding young out of the nest.

BLACK-THROATED GREEN WARBLER. *Dendroica virens.* Heard singing in the heavy timber both at Crab Camp and on Sounding Knob.

HERMIT THRUSH. *Hylocichla guttata.* One of the northern thrushes was heard singing in a ravine above Crab Camp, which was probably of this species, though we did not get to see it.

While it is not a northern species, it may be of interest to state that a Bewick's Wren was seen and heard at Crab Camp.

LAWRENCEVILLE, VIRGINIA.

THE WILSON BULLETIN

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EDITORIAL

An unusually large number of copies of the September BULLETIN were returned by the Postoffice Department, because the members had changed their addresses without notifying us of the new addresses. The postage due on a returned copy is six times the outgoing, second-class rate. If the member later calls for the returned copy, postage must be affixed to carry it, unless it is held until the next general mailing.

To obviate much of this difficulty we urge the members to notify us promptly of any permanent change of address; and this notification should reach us before the 15th of the month of publication. We will always be glad to supply missing numbers to members, but if the member wishes to receive such missing number before the next general mailing, postage should be sent.

We advise members not to send in a change of address for the summer vacation, but the Editor will be very glad, upon request, to send any single number to a temporary address without changing the mailing list.

We have recently heard some discussion of "life lists." By a life list is meant a total list of birds with which the observer has made a field acquaintance. This also implies that the list includes only species seen in the living state. Therefore, museum specimens, game killed by hunters or found in the market, are excluded.

To make the pursuit of a life list possible and enjoyable there should be certain rules of the game. It does not seem fair to take into account subspecies, since, in so many cases, subspecies cannot be distinguished in the field; and also because subspecies have been worked out more fully and minutely in certain parts of the world. Subspecies are for laboratory study, rather than for field study.

A life list of 150-250 species may be expected by the local observer in most parts of the country. To run the list up to 300 or over most students would have to travel beyond the boundaries of their local regions; and the upper limit of the list would, doubtless, depend upon the amount and extent of such extra-limital study.

To what extent a long life list is profitable, and to what extent it is an index of ornithological erudition is, probably, a debatable subject, Which, for instance, is preferable and more scholarly, a superficial acquaintance with a long list of species, or a more intensive knowledge of a smaller number? The student may take his choice, or must be limited by circumstances. Anyway, who has the longest life list?

GENERAL NOTES

Conducted by M. H. Swenk

A House Wren Despoils a Purple Martin Nest.—We have had quite a little argument regarding the destructive habits of the House Wren (*Troglodytes aedon*) and it has been pretty hard to believe some of the articles that we have read, but they say "seeing is believing," and at our house we are converted. We watched a wren enter the Purple Martin house and throw out an egg, in spite of our efforts to frighten it away, so that ends the wren houses at our place, although they have nested there for twenty years.—T. Ross Wallace, *Atlantic, Iowa.*

A House Wren Drives Away a Pair of Cardinals.—Our screened porch, covered with grape vines, affords a most habitable place for birds, and in the spring of 1925 we discovered a pair of Cardinals building a nest. I watched them from day to day until the nest was finished and the eggs were laid. A pair of House Wrens, however, occupied a nest in a neighbor's yard, and I often saw them flying about. One day while busy indoors I heard an unusual amount of scolding and chattering near the Cardinal's nest, and upon investigating found a House Wren in the Cardinal's nest with its bill in an egg. I immediately frightened the wren away and was determined to see the outcome of this heinous act. The unhappy Cardinal stayed on, until another time I again heard the same confusion and scolding. This time the incorrigible little wren had thrown the egg on the ground and was again occupying the nest. The Cardinals this time abandoned their home.

Last summer our vines were occupied by a family of Catbirds, but they finished their nesting season without any disturbance. However, we have done away with all the wren houses in our immediate neighborhood.—Mrs. C. G. Schmidt, *Elkader, Iowa.*

Observations on the House Wren in Virginia.—As there has been much discussion recently concerning the nest-robbing habits of the House Wren, the following observations may be of interest.

I have about my home a number of one-room bird houses of different sizes, suitable for House Wrens, Bluebirds, Crested Flycatchers and Flickers, and two Purple Martin houses, each with ten rooms of standard dimensions. Early in the season a pair of House Wrens built in a Crested Flycatcher house, and at once filled a Bluebird house about fifty yards away with sticks. They raised a brood in spite of two attacks from Black Snakes (*Coluber constrictor*), which, luckily, I saw in time to save the nestlings.

On July 27, they had a second brood in a gable room, in the east end of a Purple Martin house thirty yards from the house in which the first brood had been reared, and had filled one room on the north side of the house with sticks. That house had not been taken by Purple Martins this season. On this date I noticed that a pair of Bluebirds were nesting in a room on the south side of the same martin house, evidently having very young nestlings at that time, the young wrens being two-thirds grown. This situation was of great interest to me, as it is the first time I have known either species to nest in the same house with any other species, so I watched them quite closely, mornings and evenings, through the rest of their stay in the house.

Only twice did I see any signs of trouble between the two families, and in both cases the male Bluebird was the aggressor. He made a dash at one of the wrens, who at once took refuge in their nest, when the Bluebird went on about his business. On August 7, the young wrens had left the nest, but I cannot say just when they left, as I had been away for three days prior to that date. The young Bluebirds left the nest on August 12. As the wrens left the nest at least six days before the Bluebirds did, they probably began housekeeping a little the sooner, though a shorter incubation and feeding period might have made up that difference.

I am sorry that other demands on my time made it impossible for me to keep closer watch on these two families.—JOHN B. LEWIS, *Lawrenceville, Va.*

Watching the House Wrens.—The returning birds of two springs ago (1925) found our garden ready for their reception. Of attractive plants there were the Bush Honeysuckle, High-bush Cranberry, Russian Olive, Wild Gooseberry, Snow-berry, Barberry, Bittersweet vines, a grape arbor, three cherry trees, and an apple tree. There were a couple of feeding stations, a bird bath, Robin shelves, a Purple Martin house, and a Bluebird house. The advertisements read that you should have three House Wren houses for each pair, and for fear they would not understand my hospitality, I put up four of them. These, with the two on my neighbor's lot to the north, made six wren boxes within fifty feet. With the sparrow trap going full blast and the cat trap doing its duty all was set for the coming of my bird friends.

A pair of Bluebirds came first. They had some difficulty in deciding which house they would take—the green keg on the grape arbor, the three entrance house on the pole or the little brown cabin—but they finally selected the last named. The Purple Martins rented sixteen apartments in their house. About this time my attention was called to an article in the WILSON BULLETIN, which urged that the placing of wren boxes be discontinued. Against this I protested, saying that I just couldn't turn against the wren. I had never seen so much song and energy concentrated in such a tiny mite. Then it was so busy attending to its business that I couldn't see when it could find time for any mischief. I intended to put out my wren houses and *watch*. Not a bad idea if one will *watch*. This I did.

When the birds arrived I began to watch the House Wren. Not much was seen. I found Robin's eggs punctured, the Catbird's nest destroyed with punctured eggs on the ground, but I really didn't see the wren do these things. I was still in love with him and was glad to feel something else must have happened.

The Bluebirds brought out two of their family. Their accustomed absence occurred and in due time the little family returned with the children pretty well grown. Mother selected this time the keg on the arbor. Father was too busy feeding the first family to help much in furnishing house number two. The House Wrens soon sent their family on its way and then decided on the cabin, which in the meantime had been cleaned and put up on the east end of the arbor. The Bluebirds didn't want the wrens for neighbors and one day there was a lot of trouble until about noon.

I went down town that afternoon and wasn't in the garden until the next morning. Then I settled myself on the bench under the apple tree to watch my happy family. The wrens were very busy with the cabin, but no Bluebirds about.

I waited and watched. The wrens seemed to be having everything fine, no interference whatever. I went close to the Bluebird box and on the ground directly under it was a punctured egg containing a well formed embryo. Three feet away lay another egg and the Bluebirds were *gone*. That dear little song of the wren turned to an unearthly clatter, the little mite of energy turned to a long-billed murderer quicker than it takes to tell it. I pulled all the wren houses down at once and barricaded the Bluebird houses. The following days I could hear the wren's "*yap*" in the distance, but it wasn't any too far to suit me.

Last spring the Bluebirds did not return, but House Wrens came and started to build in the neighbor's box north of my Purple Martin house and about ten feet from it. In desperation I put up a wren box in its old place in front and drew the wrens that far from the martin house. One time I saw a wren go to the Robin's nest and as I tried to frighten it away the mother Robin returned. She threw out a broken egg and flew to the ground for some dry leaves, evidently to cover the dampness left by the leaking egg. An English Sparrow had a nest under the eaves, to which the wren would dart the minute the sparrow left her nest. When this nest was torn down it held just one lone sparrow. The wren is undoubtedly economically helpful, and I can understand its attractions, but I for one am thoroughly convinced there is no garden big enough for it along with other species of birds.—Mrs. Arthur Lee, *Atlantic, Iowa.*

Notes on the Habits of the House Wren.—My observations of the habits of the House Wren, extending over many years, and in widely different places, confirm my early impressions of its destructive traits, in my opinion over-balancing in importance its economic value. For many other birds are economically important, too, but have no means to retaliate against so tiny, alert and persistent a foe, himself immune to the attacks of others.

Although during the five years we have occupied this ten-acre place, no wrens have been allowed to nest upon it, each summer shows a renewed influx of the young (supposedly) after the first broods are on the wing, and also older ones, probably seeking second nesting sites. During the first nesting period I am now practically free from them. This year, after the Bluebirds had taken off their first brood in the latter part of May, I trapped eighteen House Wrens, between that time and the Bluebirds' expected return, the first week in July. This gives some idea of their numbers, since nowhere in this vicinity of large places are there any wren boxes. Each time they came, they proceeded to fill the empty bird houses with sticks. Practically every day I cleared these unoccupied houses; but with all my vigilance, the Bluebirds, returning a day earlier than expected, found the fateful sticks in two of their homes. I knew only too well their cries of alarm and disapproval, and, although as soon as they had gone, I took out the sticks, and they returned to look over the premises once more, they did not remain, and I had no second nesting of Bluebirds. On the 27th of September, however, they came back with five young, and for over an hour, warbled and fluttered around their now empty boxes, with all the joyous ecstasy of springtime, so I now look forward to their homing flight, next February. On October 1, they were again at the favorite box, with one young bird.

Boy friends, who have been satisfied with Purple Martins for several years, have become deeply interested of late in attracting other birds. They put up a

Crested Flycatcher house this June and were delighted soon after to have a pair occupy it. I warned them to be on the lookout for wrens, but they said they thought there was no danger, as none were nesting in their yard or neighboring yards. They watched with the thrill of a new discovery, the building of the flycatcher's home, and the bringing and carrying in of the snake-skin, which just precedes the laying of the eggs. All was a novel sight to the boys, and the chatter and call of the male bird, "*What-what-what*," ending in notes humanly near to laughter, they enjoyed immensely. I did not see the boys for two or three weeks, then as I met them, I inquired about the flycatchers. "Oh," said one dejectedly, "a wren came along and tossed the eggs out. I was right there, and saw him do it and the flycatchers have gone." His eyes flashed: "And you bet there'll never be a wren around again if I can help it. I'm pretty good aim, and I shot this one. And I know now what broke the eggs and tore up the nest twice, when some Bewick's Wrens built in one of the martin houses—it was just a wren. We laid it to the English Sparrows, but wrens are worse than sparrows—the're just bullies, but wrens are murderers."

If the balance in Nature had not been destroyed, and valuable birds had not so alarmingly decreased, they might still hold their own against their enemies, but as matters are now, it is nothing less than cruelty to encourage and protect the House Wren.—Eliza Dana Weigle, *Lafayette, Ind.*

Some Observations Made in Florida and Enroute to Iowa.—While in Florida in the spring and early summer of 1926, opportunity was afforded for only one long bird trip and a few short ones, but in spite of that we saw more American Egrets than we did in the same locality three years before. We also saw two Snowy Herons in flight one day, and the first pair of wild Wood Ducks of our experience. The most interesting sight, though, was a flock of about 200 White Ibis. A neighbor said that he believed that there were about 400 in the flock when he saw it.

While driving from Florida to Cedar Rapids, Iowa, later in the same summer I started to keep a record of the birds that I saw lying dead on the road, but the coat in the pocket of which I carried my note book was lost out of the car, so that nearly all my Florida records were lost, along with some other data. I recall, however, that dead birds were rare along the highway until we reached Illinois, when they became appallingly frequent, Red-headed Woodpeckers predominating and Flickers second in numbers. A Barred Owl, a Green Heron, and an American Bittern are three that I remember from Florida; there were perhaps as many more

Another thing which interested me on the trip from Florida to Iowa was the fact that at every camping place that we saw or heard birds at all, the Tufted Titmouse was always one of the number and usually the most noisy one.—Beryl T. Mounts, *Macon, Ga.*

The Re-use of Nesting Material by the Migrant Shrike.—In looking over some back numbers of the Wilson Bulletin I noticed an article in the March, 1926, number by John B. Lewis telling of the re-use of nesting material by the Blue-gray Gnatcatcher and by the Ruby-throated Hummingbird, and this brought to mind a record of a somewhat similar nature that I made early in 1923.

Almost every day of the week of May 10-17, 1923, I had been finding the head and sometimes part of the body of one or more Song or Chipping Sparrows

fastened tightly on the thorns of bushes or the barbs of a barbed-wire fence. All of these birds were found within one city block, close to the south residential section of Minneapolis, and it so prejudiced me against Migrant Shrikes (*Lanius ludovicianus migrans*) which were responsible for this destruction of song birds that when I found the shrikes' nest in the same city block I removed the five eggs so that there might not be more of the destructive birds in the vicinity. This was on May 17, and when I came back the next day, intending to take home the nest, I found the shrikes busy removing it, piece by piece, to another tree about fifty yards from the first one. Whether it was intentional or not on the part of the shrikes I do not know, but, whereas the first nest was only twenty feet above the ground and quite accessible, the second nest, built from the parts of the first, was placed about forty feet above the ground in a position which rendered it quite inaccessible, at least to human enemies. Both nests were placed in Black Oak trees.—Gustav Swanson, *Minneapolis, Minn.*

Further Notes on the Singing of the Magnolia Warbler.—On my arrival at Grey Rocks, Pelham, Massachusetts, the last of June, 1927, I found a Magnolia Warbler singing in the same haunts as his predecessor two years ago (Wilson Bulletin, XXXVIII, pp. 185-199); this bird, however, sang the complete songs consistently, instead of the abbreviated forms of the 1925 bird. I discovered that the former bird's "*sing sweet*" was simply the tag end of one of the two most common songs of this species—as rendered by this bird "*wichy wichy wee-sy*," the "*sing sweet*" being nothing else than the "*wee-sy*." This is the "sprightly" song described by Thayer in Chapman's "Warblers of North America" (pp. 125-126), while "*weechy weechy weechip*" is the "duller" song.

As before, "*weechy weechy weechip*" was primarily the perch song, proclaimed during the day from the tops of cedars and never heard earlier than 5 A. M. nor ever in the evening; "*wichy wichy wee-sy*" was always the last song at night and on eleven days was heard very early in the morning.

"*Wichy wichy wee-sy*" was sung in the very same grove and at the very same times as "*sing sweet*" had been; the 1927 bird, however, sang a little later in the evening than the 1925 warbler had done. The latest song from the latter came at 7:49 P. M. (July 12); the last songs of this year's bird were recorded at the following times: July 1, 8:00; July 2, 7:53; July 3, 7:59; July 5, 7:57; July 9, 7:53; July 11, 7:52; July 12, 8:00; July 15, 7:39.

The rate of singing of both songs was not much different from the 1925 records. Five minutes of "*weechy weechy weechip*" on July 1 at 8:40 A. M. gave 8, 9, 9, 9 and 9 songs to a minute; the usual interval between the beginnings of these songs was from 5 to 7 seconds. Records of "*wichy wichy wee-sy*" ran as follows: 9, 8, 7, 7, 6, 7, 6, 5, 6, 6, 6, 8, 9, 8—an average of 8.7 songs a minute. The most common intervals between beginnings of songs in one sample was from 7 to 8 seconds, in another from 9 to 10 seconds.

Sometimes this bird interspersed little chirps—"*tit-tit*"—between his "*wichy wichy wee-sy*" song; at other times he did not. His rate of singing with the "*tit-tits*" the evening of July 1 was 7, 5, 6, 8 and 7 songs a minute. He sang thus for twenty minutes or more, part of the time flitting about and part of the time sitting still.

As I was away from Grey Rocks from July 23 to 27, I am not positive as to the date of the last songs of the season. The last "*weechy weechy weechip*" I

heard occurred about 5 A. M. on July 21; the last "*wichy wichy wee-sy*" was noticed by a member of the family about July 25. In 1925 the last songs were heard July 23 and 29, respectively.—MARGARET MORSE NICE, *Columbus, Ohio.*

The Olive-sided Flycatcher in Oklahoma.—On September 14, 1925, my husband and I saw our first *Nuttallornis borealis* in Oklahoma. It was perched high up on the dead branches of a large solitary cottonwood, across the road from woods bordering the South Canadian River in Cleveland County. The following day I observed another one by a small pond just west of Norman. It sat on the dead tops of trees and from there sallied out in pursuit of insects. The cottony tufts were visible twice; once after it had settled down from a flight, and once when it scratched itself. Later a second bird appeared.

On May 10, 1926, a fourth Olive-sided Flycatcher was seen on the very top of a dead tree near a stream south of Norman. On May 21, another was watched at the "Sloo," high on a dead tree; it caught a small insect and also a large dragonfly which it had some difficulty in swallowing. This was the only one of the five that was observed in dense woods.

None of these flycatchers uttered any note. Although the tufts were seen in only one instance, in every case the birds were watched at leisure through eight power glasses and the diagnosis was based upon their characteristic shape, the very dark sides, and the narrow median whitish or buffy line down the breast.

Mr. R. C. Tate, of Kenton, Oklahoma, writes me that he observed three Olive-sided Flycatchers on September 16, 1925. He was within ten feet of them, and obtained a good view of the white tufts.—MARGARET MORSE NICE, *Columbus, Ohio.*

Marsh Birds in Delaware County, Ohio.—In the study of nesting birds we find that most species are confined to some particular nesting association. Since, with the development of agriculture in western Ohio, many of these associations have been destroyed, species that cannot adapt themselves to the changed conditions will be driven out. Some species are already rare or wanting. But one fortunate thing in the agricultural development is that it opens wide fields to the pioneers of other species that find ideal nesting associations in the open and drained country, such as the Meadowlark, Bobolink, Grasshopper Sparrow, Lark Sparrow, Dickcissel and some other species that make the open country their habitat. The Meadowlark (*Sturnella magna*) is probably the most abundant nesting species in western Ohio, while the most abundant winter bird in Delaware County is the Horned Lark. The resident form of Horned Lark is *O. a. praticola*, but the numbers of this bird are greatly increased by the winter visitors.

There are but few nesting associations left for the marsh birds between the Ohio River and the marshes of Lake Erie. One ideal oasis is located on the southeast corporate line of Delaware—a cat-tail marsh of three or four acres, bordered by a thicket of shrubs and vines, with water throughout the year and a depth of black ooze that is a challenge to the explorer. The Florida Gallinule, the Sora and Virginia Rails, and the Least Bittern have been nesting there for a number of years, though but few people have ever seen them. They are adepts at keeping hid when visitors are about, and if the visitors are noisy they speak in whispers, if at all. Yet for all their secretive habits they are not difficult to observe and study if some precautions are taken. The best plan we have found

is to approach their domains with caution and try to make one's self an invisible or fixed part of the landscape. Thus, all unconscious of our presence, the Florida Gallinule, and the Sora and Virginia Rails have brought their broods of chicks within six feet.

We found seventeen species nesting in and on the border of this marsh in 1923. The Red-winged Blackbird was first in numbers and the Yellow Warbler second, the latter with six nests. But one pair of Long-billed Marsh Wrens was noted that year. There were three pairs of Florida Gallinules, and they seemed to have fixed boundaries. No trespassing on their territory by the other pairs was permitted. There was much trouble between the rails. The three pairs of Sora Rails kept to the east border and the two pairs of Virginia Rails to the west border. If a Virginia Rail was found near the east border he was immediately chased back with loud vociferations that we could not understand, but were well assured by the manner of voice that they were profane. The two pairs of Least Bitterns nested in the taller cat-tails near the center of the marsh, and seemed to be on friendly terms with both the Rails and Gallinules. A pair of Coots was on the marsh up to the 28th of May. We had some suspicions that they would nest, but on our next visit to the marsh, in the latter part of August, we could not find them.

The migration record for 1923 follows: The Florida Gallinule was first noted on April 19; the Virginia Rail on April 27; the Sora Rail on April 26; the Least Bittern on May 13; and the Long-billed Marsh Wren on May 6. The Bittern and Long-billed Marsh Wren were probably on the marsh at an earlier date. I was in Tuscarawas County from April 28 to May 5, 1923.—CHARLES R. WALLACE, *Delaware, Ohio.*

Notes on an Injured Vesper Sparrow in Captivity.—On about the first of August, 1924, while riding in an auto on some cut-over lands, I observed a bird in a very unusual action. It appeared as if it was tied to a certain place, such as is done at times with certain domestic animals when they are staked out to pasture. I thought at first that the bird might have flown against something in its effort to get away from the auto, so as soon as the auto was stopped I got out and caught the bird. It proved to be a Vesper Sparrow (*Pooecetes gramineus gramineus*).

Being interested in bird-banding, I banded it and let it go, but found that it had not gained any strength in flight. On re-examining the bird I found the cause of its being so weak in flight was that half of its right wing was missing. It could not fly over two feet. The bird was fortunate in not having been caught by some enemy, for the wing was entirely healed over. I removed the band and wrote to the Biological Survey about it. In reply, Dr. A. K. Fisher wrote that if I was not able to care for it, it had better be killed. My desire was to keep it and find out something about the bird, which I did.

The place in which the crippled Vesper Sparrow was at first kept was a common canary cage. Later in the fall a box was made, with the cage inserted in one end. Perches were put in both the box and cage, and were used very much by the bird. But for roosting at night it preferred the chaff, and deserted the perches with the exception of a few times.

One of the first things that I did, was to get the Vesper Sparrow to take insects from the hand, which it did on my first attempt. Grasshopper nymphs

were the chief insect food given to it at that time. Three of these grasshopper nymphs were a meal, and each meal was eaten on the average about ten minutes apart. It was also very fond of cabbage worms, cut-worms, and other leaf-eating caterpillars, as well as flies, but spiders were not a part of its diet. Crickets were very well liked. At different times I caught flies and put them inside its home, at times some of them being alive, and the bird had much exercise in catching them. On days when I had considerable spare time, I caught many house flies to find out how many it would eat in a day. The greatest number was 201, on July 1, 1925. This bird was a male, and at times during July, instead of eating the fly at once, it would go around with it as if it were to feed some young birds. On a few occasions I saw it with dried grasses in its bill as if it was interested in nest-building. These notes on the food consumed by the Vesper Sparrow, give an idea of the value of the species on the farm in destroying insect pests, and their meals would be much greater if they had their fredom than in a case like this.

In the place where the Vesper Sparrow was kept, sand that would go through a window screen was put in for it. This I would generally pour into the cage so as to make a pile with a peak to it. I seldom got away from pouring in the sand before the Vesper Sparrow would hop down upon the pile and begin jumping, back and forth quickly, until it had made a neat little hollow. Then it would begin dusting. The sand was put in only at one end. In the other end sod was placed and sprinkled at times with water, and often chaff from under the manger was put on this. The Vesper Sparrow did much searching when new sod would be put in.

In regard to its roosting, it would generally begin making a place in the chaff a little before sundown. This would be a small place scratched out to fit its body, and there it would almost always be until morning. Once in a while it would roost on a perch. The bird delighted in seeds of timothy and various weeds that were put in for it. Much of the time it would scratch in the chaff, searching for the seeds that were to be found in it.

A dish with water was kept in the cage, near the top, for if placed on the bottom it would soon be covered over with chaff by the bird in its search for seeds. Bathing was a chief duty of the bird nearly every day, and sometimes it would hop down upon the sand and dust, at once, after bathing.

Within a few nights after the Vesper Sparrow was captured, it sang a song altogether different from its common song in summer, and on a low tone. It was not heard singing its usual song until in February, 1925. After that it was heard every day until August 8, 1925, after which it was to be heard much less, and generally on a low tone. I did not hear it sing its usual song after that. It died about April 1, 1926, I think on account of a lack of its more natural food, which was not being given to it, because it was not easy to get and I was away for a few months before its death.

This bird had passed the stage of molting when it was captured, there being only a few feathers that were not entirely grown out. In 1925 it first began molting on July 26, when a secondary was shed. The molting season lasted until about the middle of August. The following are some notes which I kept of this Vesper Sparrow's molt: August 6, secondaries and others dropped; August 7, two tertials, some feathers from the back and underparts and seven

feathers after 4:00 P. M. August 8, from sundown yesterday to 7:00 P. M. today a total of ninety-two feathers, two being from the tail; August 9, from sundown yesterday until evening today, fifty-four feathers were shed (two being tail feathers); August 10, five of the remaining tail feathers were shed; August 11, the three remaining tail feathers shed; August 12, new feathers were appearing on the crown; August 14, new tail feathers were appearing; September 9, tail feathers all fully grown. In the counting of feathers on August 8 and 9, all were cleaned out the day before so as to get accurate results, and fortunately these were the days when the greatest number of feathers were shed.—OSCAR M. BRYENS, *Three Rivers, Mich.*

BIRD BANDING NEWS

Conducted by W. I. Lyon

A METHOD FOR TRAPPING AND BANDING STARLINGS

BY EDWARD S. THOMAS

In February, 1927, the writer and some friends were returning from a field trip, when, just as the sun was setting, we noticed a large flock of Starlings entering the cupolas of a barn to roost. The experience led us to consider the matter of banding some of the birds. We had read that the Starlings in the old world seem to be peculiarly fascinated by bright lights, and are very frequent victims of lighthouse lights. Would a spotlight serve as a means of capturing them in the cupolas?

A few days later, armed with some bright, focussing flashlights, we ascended to the cupolas by means of an extension ladder, and were delighted to find that we could readily capture the birds. That night we banded forty-eight Starlings. We returned to the same barn the following night and secured twenty-two more. It was significant, however, that all were new birds. There were no repeats.

A number of the more enthusiastic bird lovers of the vicinity, notably Prof. James S. Hine and Charles F. Walker, of the Ohio State Museum, R. W. Franks, Milton B. Trautman, H. W. Walker, and John Thomas, soon joined us in the fascinating work, with the result that before the flocks of Starlings had been broken up for the nesting season, we had banded 881 of them. We visited eight barns in all. Our record haul was 265 on February 26 in the barn of Mr. Claude Meeker, ten miles north of Columbus.

Various methods were tried for capturing the birds, including a device for trapping them in the cupolas, but so far, the simplest have proved the best. It was found that Starlings are badly dazed by the bright lights reflected back by the inside of the cupola. Relatively few were intelligent enough to escape through the shutters, and we believe that in most cases we captured easily by hand the greater part of the total population of the barn.

The approved method is to raise an extension ladder, as quietly as possible up to the cupola. Two men then ascend the ladder, the first with a flashlight, the second with a sack for carrying the birds. The first man makes most of the captures and hands them down to the second, who puts the birds in a bag. When he has a sufficient number of Starlings, the bag is lowered to the banders below and a new bag is passed up to him. Grain sacks proved to be the most satis-

factory for bags. We were astonished to find that the Starlings will force their bills through any kind of cloth, in their efforts to escape, and they quickly riddle a bag made of light material. I have never heard of any other bird which will do this.

Six or seven men seem to be the ideal number for the best results: two to ascend the ladder, one to handle the sacks below one to take the birds from the sack and hold them while the band is being affixed, one man to place the bands, and one to put the banded birds in a sack. More than this number of co-operators are desirable if they are well organized; otherwise they are in the road.

Needless to say, it is important that the bands be already arranged numerically, and opened, ready to be affixed. By means of careful preparation and close co-ordination of the workers, we were able on April 12 to capture and band 128 Starlings in the record time of forty minutes.

We found it advisable to place the birds temporarily in sacks after they were banded; otherwise, they would flutter about the barn and into the cupolas and handicap the workers. We found, however, that too many birds should not be placed in one sack. They tend to crowd into a compact mass and are easily smothered. On one occasion we placed the banded birds in some metal brooder houses which happened to be in the barn. Before we realized what was happening, we found that the birds had crowded into a corner of each of the houses, and a number of them were already dead.

It has been our experience that after a barn is raided, the birds promptly desert it and do not return. Although we secured nine repeats, none were in the same barn in which they were banded. The small number of repeats out of 881 banded birds may indicate that most of the birds leave the neighborhood entirely after being banded.

We believe that the banding of the Starling may result in some interesting and important results. The country is witnessing the rapid spread of a new species over a large territory, a thing which has happened but once before in our history. It would be of great value, it seems to us, if we could secure an insight into their method of dispersal. Are the pioneers composed of the young birds? Do the adults remain stationary? Or do the adults also join in the migratory extension of the species?

Do the wintering birds nest in this vicinity? How extensive are their migratory habits? Are their migratory movements regular, like those of our native birds? These and a dozen other questions may be answered by means of banding.

In addition, it is altogether possible that in the near future it may be necessary to attempt to control the numbers of the Starlings. A knowledge of their movements is one of the first steps in the study of their control.

To secure results, a large number of co-operators throughout the country is necessary. The banding in winter should be supplemented by trapping at the nest—something which we had planned for last summer, but which, because of press of other matters, we were compelled to omit.

In closing, I might state that early this fall we tried the same method on mixed flocks of Starlings, Grackles, and Robins, which were roosting in the shade trees in the city of Columbus. For some reason, however, the attempt was a complete failure, the birds flying away before we could climb within reach.

Columbus, Ohio.

MUNUSKONG STATE PARK

BY DR. K. CHRISTOFFERSON

The Munuskong State Park in Michigan was formerly a private club of eight members; namely, James R. Hayes, Oliver Nelson Gardner, Fred Postal, George Stroh, George Osius, John Dodge, Horace Dodge, and A. A. Schantz. All of these men have now passed away, excepting Mr. Osius and Mr. Schantz. Mr. Osius, representing the heirs of the former owners, sold the property to the Dodge Bros., Inc., who, in turn, deeded it to the State of Michigan without cost, and as a memorial to John and Horace Dodge.

Because of the care and protection of the trees and game on this club property during the past twenty-five years the State of Michigan is now in possession of a wonderful wild life sanctuary. It is a place where the people may camp, or where a cottage may be rented for a limited time. Trails are being opened, affording a wonderful opportunity for the study of birds and wild game. There are also many kinds of wild flowers for those who are botanically inclined.

The Park includes about 2433 acres bordering the innermost part of Munuskong Bay, and including a part of the St. Mary's River, in Chippewa County. It has about five miles of shore-line on the bay, much of which is provided with areas of tall rushes, affording good shelter for ducks and geese. In fact, it has been the Mecca for sportsmen for the last fifty years, and the home of the Redman from time immemorial.

The Big and Little Munuskong Rivers run through it also, adding to its picturesqueness. The land is well wooded with such trees as the canoe birch, balm of gilead, white and black spruces, quaking aspen, balsam fir, arbor vitae, basswood, yellow birch, hard maple, white and black oaks, alders, willows, choke and pin cherries, june berries, mountain ash, with a few red oaks and mossy-cup burr oaks. Besides these there are a few white pines, which remain here as a relic of Michigan's former glory. None of these trees have been disturbed for the last forty years.

The State Department of Conservation has set aside about 600 acres of the marsh area as a wild fowl refuge. Corn is being fed daily, wild rice, wild celery, and other duck foods will be planted. On the land and wooded areas no hunting or trapping is permitted at any time. In this connection I might say that the sportsmen, recognizing the future benefit from such restrictions, are lending their support and encouragement; very little violation is taking place.

Deer are here in large numbers and may be seen frequently. Bear, moose, foxes, coyotes, bobcats, woodchucks, skunks, beaver, mink, weasels, porcupines, red and flying squirrels, and rabbits are among the mammals which inhabit the park area. This park is one of the few areas where the Ruffed Grouse is left. A July census revealed sixty of these birds; but I know that a Great Horned Owl later got one of them, and four have since been shot, while two are in captivity. Jacksnipes breed, and may be put up throughout the summer. The Black Duck finds it a splendid breeding area, and I am not sure about other ducks. A pair of Wood Ducks were seen on July 14, 15, August 18, and September 10 of this year. A lone Pintail was reported on August 18.

The most common small bird is the Oven-bird, and it is easy to check as many as sixty on a short walk. Song Sparrows and Yellow-bellied Sapsuckers are next in abundance. We have seen and heard a few Evening Grosbeaks in

July, August, and October. The first Pine Grosbeak called this morning, and two Canada Jays were seen in the early part of the week. These were the first Canada Jays I have seen in four years. The Canada Jays and the Ravens are very scarce because of the poisoned bait set out by the trappers. This practice should be stopped, as the Ruffed Grouse, Evening Grosbeaks, Bluejays, chickadees, nuthatches, and woodpeckers are also known to eat animal matter. Snow Buntings, Lapland Longspurs, Horned Larks, and Titlarks are now down from the north, and no doubt the Pine Siskins and Redpolls are also.

During the past season, beginning May 17, we have carried on trapping and banding work. To date our total is 278, of thirty-five species. The largest number of one species was 168 Song Sparrows. I anticipate a wonderful season next year, for we will be prepared to operate throughout the migration period. PICKFORD, MICHIGAN.

MARAUDING CROWS AND MAGPIES.—I regret to report that the rookery of Black-crowned Night Herons, at this point, was destroyed by Crows this season. This rookery is situated in a bluff of small aspen and willows bordering a running creek and was first observed by me in 1922 when it contained fourteen nests.

On June 11, this season, I visited the rookery for banding, but, on account of the very late spring, I found only sixteen birds large enough, although 129 nests contained small young and hatching eggs. On returning June 20, I found the nests deserted and the partly eaten young, and broken eggs, scattered on the ground and the Crows in multitudes. I returned the following day with a .22 rifle equipped with a silencer and succeeded in killing sixty-three of the black pirates, which was a little satisfaction at least. The old herons had moved about a mile up the creek and, apparently, established themselves in a large bog and, I think by their actions had rebuilt on the ground, although I am not certain of this as it was impossible to reach the part of the marsh they were in. Crows also destroyed a large colony of Common Terns that had established themselves on an island. On June 20 there were a great many nests containing eggs but, on returning on June 28, I found Crows in possession and only a very few eggs and young.

As usual Robins were quite numerous here this year, but Bronzed Grackles and Mourning Doves were scarce, especially doves which are decreasing year by year at this point.

Black-billed Cuckoos appeared here in 1924 following an infestation of American tent caterpillars, but this season the caterpillars had passed on, also the cuckoos.

Crows and Magpies are a great menace to the bird life at this point, and, while we wage a continual warfare against them, they are increasing year by year; and, unless we can devise some way of depleting their numbers, our grouse will be practically exterminated in a short time. Ducks appear to fare a little better than the grouse but the proportion of nests destroyed is about five to one not molested.—GEORGE LANG, *Indian Head, Saskatchewan.*

MOURNING DOVE FACTS.—A Mourning Dove's nest was discovered on March 31, 1927, with two eggs at that early date. The brooding period seemed to be exceedingly long, but the two young birds finally survived all dangers, and were banded on April 26, 1927. This is by forty to fifty days the earliest nest of the species that I have ever recorded here.

Another interesting record is, I banded a nestling Mourning Dove at an early date, so early that I knew the bird was too young to fly off the nest, although its leg was large enough to hold the band. Three days later I passed and did not see the nestling. Search revealed it on the ground, still warm, but half devoured by a large tortoise. Examination of the tortoise revealed that it was one upon which I had carved my name a few days more than ten years before.—Johnson A. Neff, *Marionville, Missouri.*

Harris's Sparrow.—I seem to be specializing in Harris's Sparrows, banding forty-four last fall, seventy-five in the spring and 165 this fall. They are self-assertive and I think inclined to monopolize the traps keeping away the smaller species.—O. A. Stevens, *Fargo, N. D.*

Trapping Experiences with Rose-breasted Grosbeaks.—During the first summer in which I occupied my house in Lake Forest, in 1915, several birds flew in through the open door of a glass-inclosed side porch. I was always successful in rescuing them, apparently unharmed, though occasionally they were stunned for several minutes. Having read of the banding of birds, I secured some bands from The American Bird Banding Association in 1917; and on May 24, 1919, I banded a male Rose-breasted Grosbeak (No. 49510) which had flown into the porch. He was again taken in the porch on May 2, 1920, at which time I photographed him in my son's hands. A banded male grosbeak was seen in the yard many times during the summers of 1921 and 1922, and I felt quite certain it was No. 49510. On May 4, 1923, I caught him in a sparrow trap. The summers of 1924 and 1925 were like those of 1921 and 1922, but I did not take him in those summers and could prove nothing. After a few years of using a sparrow trap I added a home-made drop trap which could be pulled by a string from my window. In three weeks I banded thirteen males and eight females, all of which were re-taken frequently during the summer in either the same trap or the nearby sparrow trap; and one male was re-taken in 1924. In the latter year six were banded, all of whom were frequent repeats; and while conditions changed in no way, I did not trap another grosbeak until May, 1927. I am not only at a loss to understand their absence in the last few years, but I also cannot account for their abundance in 1923. At that time I had caught as many as twelve at one pull of the trap.

That I was unable to trap any birds between 1924 and 1927 does not mean that they left the neighborhood; for they still fed (much to her disgust) on the gooseberries of my neighbor across the street, were frequently at another neighbor's food shelf a block away, and were frequently seen in my yard, where each year I found at least one nest. The probable reason for their absence was the cleaning up of my next-door neighbors' property in such a way as to rob them of much of the desired shrubbery and bushes to which they could flee.—George Roberts, *Lake Forest, Illinois.*

Some Banding Results in Minnesota.—My trapping station is situated on a rear lot about fifty feet square, in the center of a residence district in southeast Minneapolis. I am about a half mile from the Mississippi River, the streets are well planted with trees, but there are no trees on my lot. The lot is well planted, especially around the borders, with shrubbery.

I have a bird bath on the ground into which water is kept trickling at all times during the summer months. This is the great attractive feature for birds.

I maintain a feeding station, keeping seeds on the ground about the traps, also raisins, peanuts, and bread crumbs most of the time. I have a weather-vane food shelter stocked with food at all times. Suet is kept out during the colder months.

Before establishing the bird bath and feeding station about the only birds ever seen on the lot were Robins and English Sparrows. Now I have a great variety of bird-visitors, some remaining all summer, others stopping off for several days during the migrating season.

I have an "Ever-set" trap to keep down the number of English Sparrows and it serves the purpose wonderfully well. In this trap I have taken perhaps half a dozen other birds during the season. All others banded have been taken in a drop trap of hardware cloth about 24x30 inches suspended by the middle so that all sides are open. This is operated by a pull-string. The trap is kept well baited at all times so that it requires but little time morning, noon, or night when I arrive, to capture the birds that have been feeding there for several hours unmolested.

During the four years since I started banding I have banded about 625 birds. During the present year (1927) I have banded to date 177 birds, as follows:

Blue Jay 5, White-throated Sparrow 85, Chipping Sparrow 5, Slate-colored Junco 46, Song Sparrow 1, Lincoln's Sparrow 2, Swamp Sparrow 1, Fox Sparrow 1, Towhee 1, Catbird 1, Brown Thrasher 4, House Wren 4, White-breasted Nuthatch 2, Willow Thrush 1, Gray-cheeked Thrush 1, and Robin 17.

I have had fifteen returns this year, which is a goodly number when we consider that I have been banding only about 150 birds each year. The returns are as follows:

April 18. Robin 374320; banded May 27, 1925.
April 21. Chipping Sparrow 48474; banded May 9, 1926.
April 24. Robin 267187; banded May 8, 1925.
April 29. Robin 267181; banded April 29, 1925.
April 30. Robin 246225; banded April 13, 1926.
May 3. Robin 246224; banded April 12, 1926.
May 4. Robin 246227; banded April 29, 1926.
May 7. Chipping Sparrow A 48921; banded May 10, 1926.
May 7. Robin 246228; banded May 7, 1926.
May 11. Chipping Sparrow 86638; banded Sept. 15, 1924.
May 17. Chipping Sparrow 79728; banded May 8, 1925.
May 17. Robin 267190; banded May 17, 1925.
May 27. Robin 267182; banded April 29, 1925.
Oct. 2. Robin 374317; banded June 21 1925.
Oct. 9. Blue Jay 261099; banded January 5, 1924.

Blue Jay 261099 is one of the interesting returns. Banded on January 5, 1924, he returned May 18, 1924, October 24, 1924, September 23, 1925, June 15, 1926, and October 9, 1927. It would seem quite evident that he remains here the entire year.—N. L. Huff, *Minneapolis Minnesota.*

How Did the Bird Find Its Way Back?—A pair of Phoebes, nesting on the cross bracing of the ceiling of the garage, just over the entrance where the cars passed in and out every few minutes, hatched a Cowbird. This youngster quickly tired of the insect diet given by his foster parents, and shortly after leaving his nest, began feeding on the seeds in the traps, becoming finally a nuisance, since he entered them several times daily.

After several days of this we took him "for a ride," well covered to prevent him from seeing the surroundings, and liberated him about a mile from home. But the next morning we found him again feeding contentedly in one of the traps. We again took him for another ride of two miles, with the same result. Only after taking him out in the country for several miles, and liberating him near a flock of his own kind, did we succeed in getting rid of him. How did this recently born bird, reared by alien parents, never before off the home lot, find his way back home so quickly, all by himself, and with no guides?—Edward A. Everett, *Waseca, Minnesota.*

ANNOUNCEMENTS

THE NASHVILLE MEETING

The fourteenth annual meeting of the Wilson Ornithological Club will be held at Nashville, Tennessee, on December 30-31, in conjunction with the meetings of the American Association for the Advancement of Science which will be in session throughout the same week. This will be the seventh meeting to be held with the American Association. The following announcements will give most of the information which may be desired by those who may be planning to attend. A meeting has just been held at Cleveland, Ohio, which was arranged during the interval between this one and the last issue of the Bulletin. We expect to present complete accounts of both meetings in the next issue.

FROM THE NASHVILLE LOCAL COMMITTEE

The coming meeting of the Wilson Ornithological Club at Nashville Tennessee, is being looked forward to with keen anticipation. The dates decided upon are December 30-31, with a field day on January 1. The American Association will hold its annual convocation at Nashville during the seven days following Christmas, and its programs, together with those of the thirty or more associated scientific organizations, provide a feast of entertainment and culture not otherwise to be had. The foremost scientific men of the country will be present at these meetings, many of them to participate in the programs. It will be a rare opportunity to meet old friends and make new ones. These features, with th reduced railroad rates, should encourage every member of the Wilson Club to plan to attend the Nashville meeting.

The Tennessee Ornithological Society is again to be our host. Although the interval since the last Nashville meeting has not been great, the T. O S. is pledged to outdo is previous efforts, and is confidently expecting that the W. O. C. members will do their part by lending their attendance. The program, tentatively, is as follows: On Friday, the 30th, the morning session will be divided between business and the reading of papers. The Friday afternoon and Saturday morning sessions will be devoted to papers, and the Saturday afternoon program will be followed by a short business session to conclude all business. On Friday evening the annual dinner will be served at the Hotel Hermitage, and the local Committee has prepared a spicy program for this occasion. Early Saturday morning a before-breakfast-trip, for those who wish, will be made to beautiful Radnor Lake, a thirty-five acre gem set among the knobs high above Nashville. Here several hundred ducks spend the winter along with other water birds.

On Saturday evening an informal reception in honor of the visitors will be held at the home of Mr. A. F. Ganier, where all "bird cranks" will have free reign to release their pent-up enthusiasm on sympathetic ears. Mr. Ganier's collections in various branches of natural history, along with those of other local members, will be on display. Among these will be shown the nests and eggs of all species of American warblers—part of the collection of Dr. H. S. Vaughn.

On Sunday a field day is scheduled, with headquarters at "Idle-wild-wood," the bird reservation on the Stones River where members Vaughn, Mayfield, and Ganier have their summer homes. Here the high wooded cliffs above Stones River and the low valley lands nearby should yield a field list of upwards of fifty species of birds. After the tramp dinner will be served under the trees, where barbecued pig, fricasseed rabbit, and other local delicacies will be dispensed. Ample motor transportation will be supplied by the Local Committee.

Nashville, a city of 175,000, is one of the greatest educational centers in the country, and on the five college campuses which join each other, are splendid facilities for taking care of the meetings. Information concerning railroad rates, hotel accommodations, etc., has already been sent to the members. You are urged to observe carefully the instructions given elsewhere concerning the railroad certificate to be secured when buying your one-way ticket to Nashville. Requests for additional information or offers for the program may be addressed to Mr. A. F. Ganier, 2507 Ashwood Ave., Nashville. The program will go to press on December 26.

RAILROAD TICKETS

The attendance at the general meetings at Nashville will be large enough to insure the one-and-a-half fare for the round trip. When purchasing your ticket to Nashville you will pay full fare for a one-way ticket, but you must ask for a Certificate of the Western Passenger Association, which will be furnished and filled by your ticket agent at your request. You must purchase early enough to allow time for making out this certificate. The American Association for the Advancement of Science and its associated societies are entitled to this rate, but to avoid any uncertainty it may be best to name the American Association as the meeeting attended. When you reach Nashville you must deposit this certificate with the Secretary of the American Association for validation. When ready to return you reclaim your validated certificate, which entitles you to purchase the return ticket for one-half the regular fare.

ROOM ACCOMMODATIONS FOR LADIES AT NASHVILLE

The following item is clipped from *Science*, for November 11, and will be of interest to many of our members:

"Women planning to attend the meetings of the American Association for the Advancement of Science will be interested in knowing that lodging can be obtained at the dormitory of the Peabody College for $2.00 per day. The Peabody and Vanderbilt Universities will be used for the meetings and there are eating places near at hand. Application should be made to W. N. Porter, convention secretary, Chamber of Commerce, Nashville, Tenn."

Rooms in the dormitory will be much more convenient to the meetings than will the down-town hotels. It might be well to engage the rooms a week or two in advance of the meetings if you are certain of going.

MID-WINTER BIRD LIFE AT NASHVILLE

The mid-winter bird list at Nashville numbers between fifty and sixty. The Bluebird, Cardinal, Flicker, Junco, Mockingbird, Field Sparrow, White-throated Sparrow, Towhee, Downy Woodpecker, and Carolina Wren are rated as abundant. The Bobwhite, Carolina Chickadee, Crow, Mourning Dove, Goldfinch, Golden-crowned Kinglet, Meadow-lark, Robin, Yellow-bellied Sapsucker, Savannah Sparrow, Tufted Titmouse, Myrtle Warbler, Hairy Woodpecker, Red-bellied Woodpecker, and Bewick's Wren are rated as common The Brown Creeper, Lesser Scaup Duck, Purple Finch, Sparrow Hawk, Cooper's Hawk, Red-tailed Hawk, Bluejay, Killdeer, Prairie Horned Lark, White-breasted Nuthatch, Screech Owl, Fox Sparrow, Swamp Sparrow, White-crowned Sparrow, Hermit Thrush, Pileated Woodpecker, Winter Wren, Turkey Vulture, and Black Vulture are rated as fairly common in mid-winter in the Nashville region. Pick out the birds you would like to see on the field trip at the Nashville meeting and tell the Local Committee.

COMMUNICATIONS

Editor, WILSON BULLETIN: I have read with much interest your review of Mr. A. C. Bent's "Life Histories of North American Marsh Birds," published in the WILSON BULLETIN for September, 1927, pages 187 and 188. Since your principal criticism deals directly with that part of this work for which I am responsible and because it is believed that you have not understood the system followed I feel that this letter of explanation is warranted to clear up any similar misunderstanding that may exist among other readers of the BULLETIN.

The truth of your statement that we need detailed work on the distribution and migration of North American birds is fully appreciated but as this is a subject that if treated in proper detail would occupy a great amount of space it could not be included in a general work of the character of Mr. Bent's life histories. It is regretted that no technical bulletin on this subject has been issued from the Biological Survey since about 1916. You will be interested to know, however, that I now have in course of preparation, two manuscripts on this subject.

In the life history bulletin, however, it was impossible to give the great mass of detailed information that is available concerning the distribution and migration of our native birds but if you will compare the last volume with those preceding it you will find that this phase of the subject has been treated more fully than ever before. Even so I found that it was impossible to give more than a general sketch showing the general breeding range, winter range, and the outstanding features of the spring and fall migrations. In working out the breeding range the method employed was to start at the northwest corner working across to the eastward, thence down the east to the southeast corner, across to the southwest corner, and back to the starting point. The theoretical perfect range is thus worked out in a quadrangle. The same system was followed with regard to winter ranges. Obviously, if a bird is known to breed between certain north and south limits it may be safely considered to breed at all intermediate areas where the conditions are suitable.

To take the example that you use of the coot, by reference to our distribution maps it is noted that this bird is known to breed in no less than 34 different

states in addition to seven provinces of Canada. It must, however, be obvious that if this bird breeds north to British Columbia, Mackenzie, Saskatchewan, and Manitoba, and south to Central America, it is likely to breed in any intermediate region where a suitable habitat is found.

In giving the migration records of birds, lack of space demands that they be kept down as much as possible, so it is my usual custom to select not more than three or four typical records for each state for each migratory season. Even then it is difficult to keep the migration portion down to a reasonable size. For example you will find that this portion of the distribution section of the coot occupies two and one-half pages of solid print.

The introduction of maps as you suggest would, of course, add interest but would also increase the expense of publication which is a factor that must be considered and it also is my personal opinion that they would be more or less out of place in a series of bulletins such as has been undertaken by Mr. Bent. It seems more natural to look for them in the technical bulletins of the Biological Survey that deal specifically with distribution and migration problems. Those now in progress will be fully illustrated in this respect.

I appreciate that your criticism has been given in a friendly spirit and my only desire in replying is to clarify the situation that exists with reference to this series and to explain the system employed in working out these portions of the publication.

Very truly yours,

FREDERICK C. LINCOLN,
U. S. Biological Survey.

WASHINGTON, D. C., October 29, 1927.

[Editor's Comment. We concur in all of the opinions expressed in Mr. Lincoln's letter, believing this to be consistent with our previous review. The only opinion we wish still to insist upon is that a more elaborate statement of distribution is needed; Mr. Lincoln also concurs in this, and, furthermore, assures us that such reports are in preparation and will be illustrated. Nothing more needs to be said, perhaps, except for the Editor to offer his apology for bringing the matter up.]

Editor, WILSON BULLETIN: The autobiography of Mr. Otto Widmann in the last issue of the WILSON BULLETIN is of great interest to his host of admirers. As one of the many who have been favored with his advice and suggestions, I should like to mention a very remarkable characteristic of this eminent authority, and that is, his wonderful handwriting. I am sure very few people indeed, at any age, can pen the beautiful letters so skillfully written by Mr. Widmann. Those who are so fortunate as to have letters from him in their possession, will preserve them, not only for the knowledge such letters always impart, but also as perfect specimens of the art of handwriting, now perhaps decadent.

Yours truly,

Thos. H. Whitney.

ATLANTIC, IOWA, November 7, 1927.

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